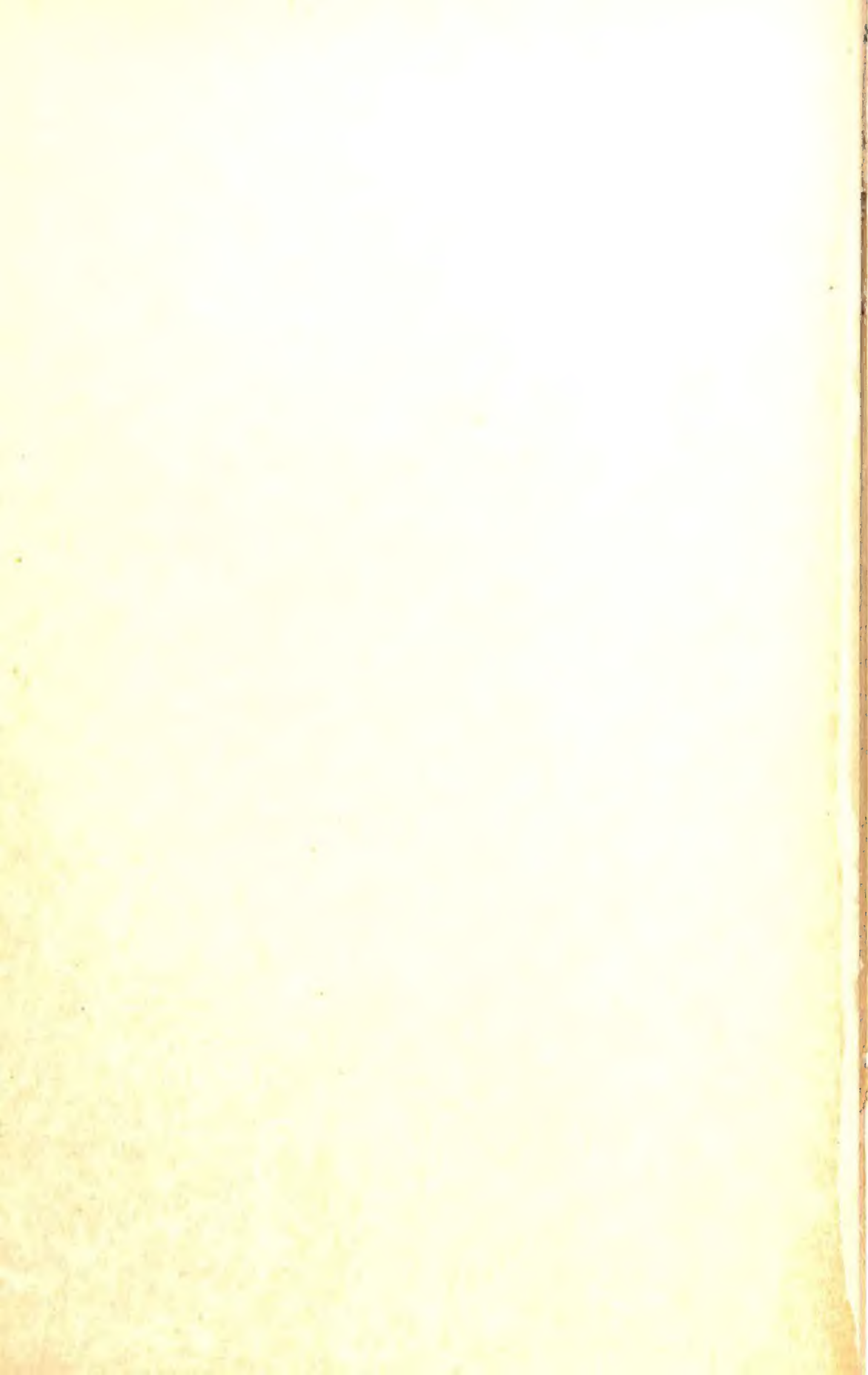




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Studies in
Psychosomatic Medicine

PSYCHOSEXUAL
FUNCTIONS IN WOMEN

Volumes in the
STUDIES IN PSYCHOSOMATIC MEDICINE
of
THE INSTITUTE FOR PSYCHOANALYSIS
Chicago, Illinois

AN APPROACH TO THE CAUSE AND TREATMENT OF VEGETATIVE
DISTURBANCES—Franz Alexander, M.D., Thomas Morton
French, M.D., *et al.* 1948

PSYCHOSEXUAL FUNCTIONS IN WOMEN—Therese Benedek, M.D. 1952

STUDIES IN
PSYCHOSOMATIC MEDICINE

*Psychosexual
Functions in Women*

By

THERESE BENEDEK, M.D.

THE INSTITUTE FOR PSYCHOANALYSIS, CHICAGO

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FOREWORD

Psychosexual Functions in Women constitutes the second volume of the psychosomatic studies presented in this form by The Institute for Psychoanalysis, Chicago. The first was published in 1948 under the title of *Studies in Psychosomatic Medicine—An Approach to the Cause and Treatment of Vegetative Disturbances*. The present volume is a collection of the studies in female sexuality made by Therese Benedek over the last fifteen years.

A Doctor of Medicine since 1916, Dr. Benedek began her career as a resident in pediatrics in a hospital for infants in Budapest. Although she left that specialty for psychiatry and psychoanalysis, her interest remained in the "psychosomatic approach," especially in the endocrinological aspects of the interaction of body and mind.

The Institute for Psychoanalysis, Chicago, gave Dr. Benedek an opportunity for this specialization within the general field of psychosomatic research. Soon after she joined the staff she began work on an extensive project in collaboration with the endocrinologist, Dr. Boris B. Rubenstein. The result of this investigation was published as a monograph by the National Research Council in 1942. It is presented in this volume as Chapters 1-11. Although this is a truly psychosomatic study in which psychoanalytic interpretation is consistently correlated to physiological material, it has a special aspect. Drs. Benedek and Rubenstein studied normal physiological processes rather than pathological conditions. Their subjects were women who were in psychoanalytic treatment for a variety of reasons and who were being analyzed by several psychoanalysts connected with the Institute.

In her analysis of the case records, Dr. Benedek was able to determine from the psychological material the current phase of the sexual cycle. It was a methodological achievement of the first rank to discover that interpretation of psychoanalytic material could be correlated, with a high percentage of exactness, with an estimation of the ovarian hormone production (based on evaluation of vaginal smears and basal body temperature). This demonstrated psychoanalysis as a tool of biological research.

This study established the influence of the two ovarian hormones upon the emotional orientation of women: of estrogen in the pre-ovulative phase and of progesterone during the postovulative phase of the cycle. In contrast to other psychosomatic studies which demon-

strate that emotions may motivate specific physiologic responses, this study shows the specific psychic responses to physiological stimuli. As is well known, the behavior of women is also determined to a great degree by cultural influences which modify not only the emotional reactions to the hormones, but under certain conditions, the ovarian function itself.

The later studies republished in this volume draw freely upon the theoretical conclusions made from the detailed study of the hormonal and emotional rhythm of the sexual cycle. They demonstrate the subtle interaction between the psychodynamic forces and the cultural factors which together motivate human behavior.

This volume holds more than usual interest for the medical profession. Psychiatrists, gynecologists, and general practitioners may gain from it a greater insight into the problems of their patients. Anthropologists and other social scientists will find basic information about women which is of value in their own fields of study. Many laymen will be interested in this scientific effort to unravel some of the complexities of women's behavior.

FRANZ ALEXANDER

PREFACE

This volume is a collection of studies in female sexuality based on psychoanalytic investigation and carried out in conjunction with physiologic observation. Written from the point of view of a particular investigation, this work does not purport to be a comprehensive presentation of the psychology of women. The methodology as well as the conclusions, however, offer evidence, beyond that of the usual psychoanalytic case studies, of the validity of the basic concepts of psychoanalysis. According to these concepts, the maturation of the propagative function is the axis around which the psychosexual personality develops.

Although psychoanalytic theory is in general well documented, it has an obstacle to overcome in regard to the psychology of women. This obstacle originates in Freud's concept that anatomical sex difference represents to the woman a biological inadequacy in comparison to men; that woman's psychology therefore centers around a sense of inferiority, that her wish for childbearing and motherliness is but an effort towards substitution for physiologic lack. During the last three decades many psychoanalysts have attacked this concept. Karen Horney was the first to point out that this is not a biological concept but is based on observations which can be explained by cultural influences. While this concept has not been discarded, psychoanalysis has made great strides in understanding the function of the mother in the psychosexual development of her children. Freud himself initiated investigation in this field when he pointed out the significance of the early relation between mother and daughter and emphasized the influence of this long period of emotional interdependence on the psychosexual maturation of the girl.

Although many studies yielded information regarding the psychosexual development of woman, the psychology of motherhood and motherliness, except for the extensive study of Helene Deutsch, has been little investigated. Since there were no psychosomatic investigations to support the emotional dynamics related to the two phases of the propagative function of woman (the heterosexual relation and childbearing), the psychoanalytic theory of female sexuality seemed almost unfathomable.

Our investigation was not begun with the goal of clarifying basic theoretical concepts. Our aim was simply to find out whether a physiological function, such as ovulation, which in animals determines

their "social behavior," could be recognized in the emotions and behavior of women in our culture. This question was answered in the affirmative. Further investigation of the sexual cycle revealed that woman's sexual behavior, on superficial examination, only seems to be independent of the propagative, biologic meaning of sexuality; on closer scrutiny, we find that the difference between other mammals and the human female is that the woman's behavior is the result of a complex, delicate interaction between personality and physiologic regulation. After ten more years of psychoanalytic study of problems of motherhood and motherliness, it can be stated that the assumption of a biological substratum for the emotional manifestations of both phases of the propagative function has significant heuristic value. It opens new avenues for investigation and it explains many of the concepts derived from psychoanalytic observations. It is almost surprising how "natural" many of the earlier psychoanalytic concepts become when investigated in the light of hormonal regulation.

A comprehensive psychology of women, however, can be written only with a detailed consideration of the psychology of men. In this volume the psychobiologic interaction between the sexes can only be inferred from the material on the woman. With these papers, which deal with special aspects of the psychology of women, we have also included a chapter (Chapter 14), which is a compendium of the psychosexual physiology and pathology of both sexes. This chapter, however, is to be regarded as only a bird's-eye-view comparison of the psychosexual problems of men and women.

I wish to express my gratitude to my patients, not only to those whose cooperation made these investigations possible but also to all those whose need helped train my understanding. I acknowledge my indebtedness to Dr. Boris B. Rubenstein, co-author of the monograph, whose interest remained active in the later studies although he did not participate in them. I owe thanks to all my colleagues at The Institute for Psychoanalysis, especially to Dr. Franz Alexander, at whose request one of the papers was written, and to Helen Ross, whose helpful interest has been a steady source of inspiration. I am also grateful to Roberta Collard for her editorial help and for the preparation of the index to this volume.

For permission to reprint these articles I extend my thanks to the following publications and publishers: the American Psychosomatic Society, Inc., the American Journal of Orthopsychiatry, The Psychoanalytic Quarterly, and W. W. Norton & Company, Inc., all of New York.

Chicago, March, 1952

THERESE BENEDEK

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*Chapters 1 to 11 were originally prepared in collaboration with
BORIS B. RUBENSTEIN, M.D., Ph.D.*

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PSYCHOSEXUAL FUNCTIONS
IN WOMEN

CHAPTER 1

INTRODUCTION

Periodic phases of sexual activity are the rule for all forms of life in which reproduction occurs by the union of differentiated sexual cells or gametes. In undomesticated mammals, phases of sexual activity are seasonal. In both male and female, periods of growth and activity of the sexual glands occur during the mating season. In the female, copulation is normally followed by pregnancy and lactation; in the male, by atrophy of the testes. In domesticated mammals, while the male seems always ready to respond to heat in the female, the female gonad function is periodic. Periods of sexual receptivity—heat or estrus—occur at specific intervals peculiar to the species. In primates, however, the female, like the male, may exhibit sexual behavior at any time; estrus becomes only a period of heightened receptivity and greater frequency of copulation. Ball and Hartman (1935) have shown in the macaque, the baboon, and the chimpanzee that menstruation is only an incidental phenomenon (more significant in the chimpanzee than in the others), and that the central phenomenon is the swelling and coloration of the sex skin, which is closely related to ovulation, and occurs in the mid-part of the cycle. Although copulation occurs with greatest frequency and functional efficiency during the period of swelling and coloration of sex skin, it may also be stimulated by a variety of factors at other times. Thus sexual behavior cannot be explained strictly in terms of gonad function. The more complex and variable the stimuli for sexual behavior, the less overt is the sexual cycle (Elder, 1938; Hartman, 1932; Zuckerman, 1937).

In women, sexuality is not only stimulated by complex factors and without regard to season, but it also shows a great variety of expression. Sexual desire, urge, and tenderness alternate with affective behavior of other sorts or it may find substitution in activities and fantasies which are far different from overt sexual behavior, although all may be consequences of sexual stimulation.

Because menstruation is a readily observable recurrence, it has been regarded as the only evidence of the sexual cycle in women. Since prehistoric times, the phenomenon of periodic bleeding in

women has been a focus of taboo and of elaborate cleansing rites. A voluminous speculative literature has developed concerning attitudes toward the function of menstruation and on the significance of these practices. Indeed, menstruation, as Freud suggested, has been "exploited" by psychology to explain the complex relationships between the sexes. It is not surprising that psychologists have been concerned with this problem, for there has always been a deep emotional reaction to this function. The reaction, however, cannot be attributed only to the phenomenon of bleeding, even though this is so often regarded as a loss of the body's integrity, as an eternal threat. The bleeding and its associated discomfort might be taken as a sign that menstruation is a punishment for sexual guilt, and as a consequence a stigma of inferiority.¹ Even nowadays one hears the argument that the impending bleeding, with its emotional and physiological concomitants, actually determines the emotional cycle in women. Certainly it is difficult to disentangle the various factors that evoke the emotional and somatic reactions of menstruation, which, however, often determine the sexual life of women.

It was not until the discovery, isolation, and synthesis of the sex hormones that it became possible to study the effects of these substances and to learn their relationship to ovarian function. It was then established that there is a definite cycle of hormone production by the ovaries, that estrus in animals is associated with very high production of one of the hormone groups, "estrogen," while the quiet phase that follows estrus is associated with the function of the corpus luteum, which produces both estrogen and progesterone. After it had been demonstrated that estrus culminated in ovulation, the search for signs and symptoms of ovulation—of estrus in women—began.

The direct method of finding recently ruptured follicles in women by operation failed of its objective for two reasons: First, it was extremely difficult to determine with any degree of accuracy how recently a follicle had ruptured. Second, the finding of the ova in the Fallopian tube (a certain criterion of recency) is so difficult that up to the present time fewer than a dozen ova have been recovered in this way. It was obvious that less direct methods were necessary in order to determine the timing of ovulation. Perhaps the most obvious indicator of ovulation is that of pregnancy following single coitus. If the subject were completely reliable, this would indeed provide a method for timing ovulation with an error of not more than two days (to allow for survival of sperm and egg before or after ovulation). Indeed this method has been extensively used to verify the evidence

¹ The psychoanalytic literature on this subject until 1932 was succinctly reviewed by Mary Chadwick (1932).

provided by other less direct methods. It is apparent, of course, that to obtain a significant number of "single exposure pregnancies" would take a long time, particularly since the value of these data depends so largely upon a control period of considerable length prior to conception. Other less direct methods for determining the time of ovulation were necessary before there could be an advance in knowledge concerning this function.

Some investigators and clinicians, by close questioning, have elicited information indicating that many women suffered from *Mittelschmerz* at some time between their periods. The degree of pain varied widely from a mere twinge or cramp to severe abdominal distress, accompanied by general malaise and headache. Inasmuch as anyone may suffer sensations similar to *Mittelschmerz* for a variety of causes which are unconnected with ovarian function, this would seem, a priori, to be a poor guide. In practice it has turned out that *Mittelschmerz* is but rarely an evidence of ovulation.

To many investigators it seemed reasonable that ovulation should be accompanied by a variety of constitutional and metabolic changes. Thus a comprehensive study of cyclic variations in skin electrical potentials was undertaken first by Burr and his associates (1935, 1937), later by Rock and his coworkers (1937), and by Altmann (1940). These studies have revealed that there are, indeed, significant changes in the skin potentials at the time of ovulation. There are, however, equally significant changes in skin potentials that are definitely unrelated to ovulation. Also, the polarity of the charge is inconstant, and while this might be construed as evidence for ovulation from alternate ovaries, further study has failed to bear out this interpretation.

The changes in skin potential may perhaps be related to simultaneous changes in balance of the vegetative nervous system or even of the metabolism. The basal metabolism has also been shown to undergo a cyclic variation. The average change is of the order of 10 per cent, that is, within "normal" range of variation. Usually the lowest metabolic rate occurs preovulatively, and the highest rate about a week later. Fluctuations in basal metabolism within so narrow a range as 10 per cent are difficult to interpret beyond the fact that they indicate some change in metabolic balance. The basal body temperature is a similar measure of a constitutional change whose cycle shows a distinct correlation with the cycle of gonad function (Rubenstein, 1937, 1938). Since very few events or agents are known to depress the basal body temperature, and since most of the accidents, emotional disturbances, etc. tend to elevate the basal body temperature, the normal and steady decline of the body temperature in the preovulative

phase of the cycle may be a reliable index of the normal and steady development of a follicle containing an ovum.

Cyclical changes more closely related to ovarian function and ovulation were found by investigations of the endometrium of both infrahuman primates and women.² In 1933 Papanicolaou reported changes in vaginal smears of women related to the menstrual cycle, and presented evidence that the smears of women show changes referable to ovarian function (1933). Since then other investigators, particularly Shorr (1940) and Rubenstein (1940), have continued studies of vaginal smears and have introduced modifications in the technique of taking and staining the smears which facilitate their use and make them acceptable to patients.

No method of endocrine assay can, however, be expected to provide evidence of emotional and behavior periodicity in women comparable to estrus in lower animals. Sexual behavior in women is motivated by so many factors that they are frequently unaware of any recurring periods of enhanced desire, and they are only rarely able to differentiate variations in the quality of the desire. In various works on physiology and gynecology, reference is made to periods of heightened receptivity in women. But reports of various investigators concerning the monthly curve of sexual desire in women are highly inconsistent. There is evidence, however, that a great number of women in our culture have two peaks of sexual desire, one in the postmenstrual or intermenstrual (ovulative) period, and the other in the last days before the onset of the menstrual flow; further, that the premenstrual sexual desire is accompanied by more overt emotions than the former, ovulative period (Davis, 1926; Dickinson, 1927; Ellis, 1936; Stopes, 1923). These investigations, which were concentrated upon normal adult sex behavior (coitus), arrived at an answer, therefore, which was not in agreement with physiology. Although they assumed a bimodality in the sexual curve, they did not offer an explanation of this phenomenon consistent with what was then known of gonad physiology.

Coitus is, per se, not adequate evidence of heightened sexual desire originating in physiological stimuli, even in animals. Attempts have been made to explain how sexual behavior is independent of gonadal stimulation in the infrahuman primates. Tinklepaugh (1932) has pointed out that sometimes when monkeys are excited by any stimulus with which no direct contact is possible, the resultant excitement expends itself in a sudden burst of sexual activity. He and others

² The literature on systemic reactions to the ovarian cycle, as well as the research on changes in the endometrium and on other effects of the ovarian function, are reviewed critically in *Sex and Internal Secretion* (Allen, 1938).

furthermore distinguished a nonsexual period of "affection" in the chimpanzee and have sought to find an explanation for this affectivity, which though not primarily sexual in nature readily assumes a sexual form of expression. Since these publications, observations have increased in number showing that the simple explanation of sexual behavior of animals in terms of gonadal regulation alone is inadequate, and that sexual behavior may be motivated by drives which can be separated from those in the direct service of reproduction (Maslow, 1936). Before these recent observations were made, the experimental physiologist and biologist considered the sexual drive as a single vital phenomenon aiming at reproduction, and which was reached by a complex behavior pattern regulated by hormones. They arrived at the same problems with which Freud struggled when he felt the need to give a theoretical framework to his own observations, namely, at the multiple motivation of human behavior. Freud found that what appears as sexual drive in man is a result of an integration of several tendencies which originate in the needs of the individual. He formulated a concept of sexual drive which accounts for the wide variation in its manifestations, but the verification of his biological assumptions was beyond the scope of psychoanalytic technique. For evidence and confirmation, his theory awaited biological investigation. It was a challenge, therefore, to attempt to correlate psychoanalytic interpretations with laboratory findings.

The Problem

When we began our study, the vaginal-smear and basal body-temperature technique had already been developed. This technique, with relatively little inconvenience to the patient, makes possible a series of daily observations referable to ovarian function. Psychoanalysis makes possible a series of daily observations of the psychic manifestations of an individual, which, according to the principles of psychoanalysis, are referable to the sexual drive. Our problem was: Can these psychic manifestations illuminate the sexual cycle? Through an analysis of psychoanalytic records of subjects, our aim was to find out whether or not the psychoanalytic material reflects an ebb and flow of recurring emotions, which, independent of environmental influences, are fundamentally related to hormonal function.³ These questions confronted us: Is there a period of heightened sexual receptivity,

³ This is not the first time that recorded psychoanalytic material has been used to investigate minute details of periodically recurring psychosomatic constellations. A research on asthma (French, Alexander, 1941), carried out in the Chicago Institute for Psychoanalysis, used a similar technique.

estrus, in women? Would our material and method prove satisfactory? Would the vaginal-smear method show findings related to psychological data?

We started as skeptics. We—the psychoanalyst and the physiologist—were each suspicious of the scientific merit of the other's method and therefore proceeded with strictest caution. The psychoanalyst agreed not to polish up her knowledge of physiology. Smear and temperature data were sent to Cleveland for independent study. There was no communication between the two investigators for a period of ten months, after which we met to compare our independent findings in the presence of a third person. The question at that time was only whether ovulation was reflected in the psychoanalytic material. We encountered several fortunate circumstances: The first patient chosen for this study was unusually suitable for the purpose; her emotional reactions were exaggerated, her verbalization of them was distinct; and her first ten cycles were ovulative, although ovulation appeared at irregular times. Thus we could observe that after varying periods of increasing tension, an emotional relaxation occurred during which psychodynamic manifestations were distinctly different from those of the previous day. While we continued to accumulate material from this patient, we added new patients to our group and we reviewed the material on which our initial correlations had been made. This material, about thirty cycles, had already shown wide variation in psychological manifestations. This made us realize that it was the psychodynamic motives and not the macroscopic clinical picture which had enabled us to recognize ovulation or ovulative change. Our task was then to formulate those psychodynamic motives by which we recognized ovulation. Seventy-five cycles of nine patients had been studied when we reported our findings for the first time (Benedek, Rubenstein, 1939a):

1. The estrogenic phase of the cycle corresponds to an emotional condition characterized by active heterosexual libido, that is, heterosexual tendency is correlated with estrogen production.
2. The function of the corpus luteum corresponds to the erotization of the body. In this phase of the cycle, the libido is turned from the outer world toward the individual, who then appears more passive. The passive receptive tendency of the sexual drive is correlated with progesterone activity.
3. Ovulation is characterized by sudden decrease of active libido and by a surge of narcissistic erotization corresponding to the greater activity of lutein hormones. Emotionally, this state is characterized by relaxation of the preovulative tension, which is caused by

the conflicting psychodynamic tendencies which appear in correlation with the increased estrogen and incipient progesterone activity.

As we have stated, ovulation occurred irregularly, and in several cycles we assumed that ovulation did not occur at all. Searching for the psychodynamic signs of ovulation, we studied the motivation of the psychoanalytic material for each day and attempted to evaluate not only the qualitative but also the quantitative changes in the psychodynamic tendencies. During the course of our investigation, there was a similar development in the evaluation of the vaginal smear. A comparative method thus developed by which we were enabled to evaluate both the smears and the psychoanalytic record quantitatively. In the second part of our publication (Benedek, Rubenstein, 1939b), based on the investigation of 125 cycles, we had already reported that we could differentiate increasing hormone from diminishing hormone. We had recognized immediately what we term "incipient hormone level." The psychic apparatus seems to respond definitely to the appearance of a new hormone, to estrogen after a period of low hormone level, and to progesterone in the preovulative phase. Although fluctuations in hormone quantities following the "incipient" stage were not followed with great accuracy, high levels of hormone production were easily differentiated from the low hormone levels. The former corresponded to the emotional manifestations of a more highly integrated sexual tendency, that is, to a sexual tendency of genital aim, while the latter was expressed by emotional tendencies of pregenital character.

The simultaneous use of the vaginal-smear and basal body-temperature technique, and the psychoanalytic interpretation of the day-by-day record of psychological manifestations revealed the following:

1. There is a correlation between each hormonal variation of the sexual cycle and the psychodynamic manifestations of the sexual drive.
2. Parallel to and correlated with the hormonal cycle, there is an emotional cycle. Both together constitute the sexual cycle in women.

Beneath all the complex superstructure of human personality there is an ebb and flow of physiological stimuli which direct the sexual needs of the human being, just as they affect the sexual behavior of other mammals. The cycle begins with the gradual production of the active sexual tendency, the object of which is the sexual partner, and the aim coitus. This active sexual energy fuses with a passive recep-

tive tendency, thus creating the highest integration of sexual drive in women, the biological and emotional readiness for conception. After ovulation occurs, the psychodynamic constellation changes so definitely that we speak of a systemic reaction. This is induced by the increase of progesterone production. In the majority of cycles, an emotional condition, varying in duration, develops and is comparable to "the quiet period" of the lower mammals. In our cases, even though impregnation did not occur, the sexual drive was expressed by its changed aim. Interest in the sexual partner receded into the background, and the emotional preparation for the function of motherhood became the object of the sexual drive. If pregnancy does not occur, the corpus luteum regresses, progesterone production diminishes, and the emotional concentration upon motherhood disappears. As the hormone production decreases, the manifestations of the sexual drive again change. They lose their libidinous character, and pre-genital characteristics appear.

This is indeed a schematic abstract of the infinite variations of the psychosomatic events involved in sexuality. While the emphasis is usually upon the complexity of the motives of human behavior and its freedom from hormonal regulation, in this presentation we allow for all other motives of sexual behavior and focus upon the biological rhythm of sexuality.

The Tasks of the Monograph

This work combines a histological and a psychological method in order to investigate correlations between endocrine and psychic functions.

It is obvious that endocrinological research on the ovarian cycle, as well as the complex theory and practice of psychoanalytic interpretations, has an extensive literature. We believe that it is not our task to review and discuss the development of the methods or the results of the previous investigations which we have used as our tools. We are convinced that so broad a framework for one specific investigation would not clarify but only confuse the main task of this presentation. We shall therefore mention and review literature only in so far as it is in direct relation to this special investigation, and we shall refrain from a broad presentation of all investigations in the field, the results of which we have drawn upon freely.

The main task of this presentation is to demonstrate the two methods by which correlations between ovarian function and psychodynamic processes were achieved: (a) the vaginal-smear and basal body-temperature technique and (b) the application of psychoanalysis

for prediction of the hormonal state. We shall show how the co-ordination of these two methods developed and improved during the course of the investigation. We know that inaccuracies and approximations are necessarily inherent in a comparison of the results of two methods. The correlation of two such series, however, serves to validate each method separately as well as in combination. Since the presentation, interpretation, and critique of the method form the main body of this monograph, a statistical evaluation of our predictions is presented at the beginning, together with a general survey of the material.

We intend to present as much of the psychoanalytic material as is necessary for the demonstration of our method and for the problems involved. This material, which is more complete than that already reported, includes the cycles upon which the first two publications were based.

We shall apply some of our correlations to a study of certain problems, such as the bimodality of the cycle and the emotional symptomatology of the premenstrual phase.

On the basis of the material presented here, we shall make conclusions about the general developmental factors which influence the sexual cycle and the sexual drive in women.

CHAPTER 2

GENERAL SURVEY OF THE MATERIAL

This study¹ is based on the material of 152 cycles of fifteen women of childbearing age. The total material investigated was actually greater than the number of cycles reported. For the purpose of comparison, a number of cases not included in the research were studied for periodically recurring psychodynamic manifestations. In addition, it was necessary to study the complete psychoanalytic records of our fifteen cases independently of the length of time during which they were subjects of this investigation, that is, when they prepared vaginal smears and took basal body temperatures. A few cycles have been omitted because they were not complete; the comparative material was sometimes interrupted either by the patient's failure to prepare vaginal smears or by an interruption in the psychoanalytic sessions.

For practical reasons, the collection of slides and psychoanalytic material was terminated on June 30, 1939. The cases had originally been accepted for psychoanalytic treatment because of various emotional disturbances and psychosomatic symptoms; thus we do not have in this series any individual who had a well-balanced emotional and sexual life. We believe, however, that the type of case material used is essential to our investigation for the reason that "normal" women, i.e., individuals whose sexual need is regularly satisfied, would not show psychic manifestations in sufficient relief for psychoanalytic observation. We have the impression that certain types of personality show the sexual cycle more clearly through psychic manifestations, dreams, and fantasies than do others. Such a comparison, however, goes beyond the scope of this study. We anticipate that one criticism of this work will be that the subjects were neurotic individuals, that they were under the influence of psychoanalytic treatment and under the influence of their analysts, and that all these facts, or any one of them, might influence the person to produce psychological material which reflects the gonadal hormone production in a cyclical sequence.

In Chapter 7 we shall discuss how the psychoanalytic treatment influences the manifestations of the sexual cycle, in which periods of

¹ The first ten chapters of this book were originally published as a monograph.

psychoanalytic treatment the predictions were most nearly correct, and when the psychoanalytic procedure, generally speaking, influenced the psychological material so as to become a source of error in our predictions. At this point we shall consider how much the patients and their analysts may have been under the influence of the aims of this investigation.

Of the fifteen cases presented here, four had their psychoanalytic treatment with the investigator. Eleven were analyzed by other psychoanalysts, two of them not in Chicago. The psychoanalytic treatment of five of these cases was supervised by the investigator. In six cases there was no communication whatsoever concerning the cases between the individual's psychoanalyst and the investigator before the psychoanalytic record was studied and the predictions made. The supervision of the five cases was for teaching and therapeutic purposes. Since the material presented for supervision is arranged to suit these aims and not the goals of a particular investigation, we do not believe that the supervision unduly influenced the psychoanalysts to handle their cases in such a way as to emphasize the relation of the psychological material to the sexual cycle. It is true that in discussions of the case the investigator obtained knowledge of the personality structure directly from the psychoanalysts, so that she had this information before the psychoanalytic records were studied as a part of the investigation. But later, when we studied the statistical correlations, we found that our predictions were equally good whether the cases were supervised by or absolutely unknown to the investigator. Our predictions depended on the completeness of the record and upon the correctness of its evaluation. The same argument would hold for the first case studied by the investigator, particularly for that part of the material which preceded the first comparison of psychoanalytic findings with the vaginal smears. It might be supposed that, in the second year of the study, the assumption of existing correlations would influence her psychoanalytic work, that her more intimate knowledge of her own cases would help her in evaluating emotional changes as they were recorded, that she would record pertinent psychological material and neglect other. Another valid question would be whether and how the goal of the investigation affected the psychoanalytic technique of the investigator. Our answer is that if the therapeutic work was guided at all by the goal, the result was to make her more passive than otherwise. Since the first thorough study of the psychoanalytic record had shown that the analyst's interpretations could interfere with the free flow of associations and emotions and could force them in another direction, the investigator's technique changed in order to leave the subject more freedom to

express emotions and associations without being interrupted by interpretations. For this reason we can with good conscience maintain that the patient's psychological material was not influenced directly by the investigator's assumption of the hormonal correlations.

We must now discuss another possible criticism, namely, that the psychological material might have been influenced by the subject's awareness of this investigation and by her preparation of vaginal smears, etc. As we have noted, these fifteen cases showed great variation in emotional and psychosomatic disturbances. With one exception they had already been in analysis for various lengths of time when they were asked to cooperate in this research. Cooperation was requested chiefly from those patients whose symptoms and psychoanalytic material indicated an interrelation between their disturbances and their ovarian function. A patient could hardly be expected to bear the inconvenience involved in observations over such a long period of time unless some essential gain, chiefly therapeutic, were connected with the whole procedure. The question which interests us here is how these patients reacted in psychoanalysis to the fact that they were subjected to a laboratory investigation. As was already mentioned, there was one patient who had taken the vaginal smears voluntarily before there was any thought of her being psychoanalyzed. Later she began a psychoanalytic treatment and continued taking vaginal smears for a period of seven cycles. For this patient the investigation was independent of her psychoanalysis. This was not true of the others.

During the course of the analysis, when the psychoanalyst decided that the situation was such that he could introduce the project to the patient, he did so. If the patient expressed her willingness to cooperate, she was sent to a woman physician of the Institute staff who instructed her as to how to prepare the vaginal smears. Each patient also received written instructions and necessary material from the laboratory technician of the Institute for Psychoanalysis, to whom she gave the collected smears at intervals of two to four weeks. The aim was to keep the whole procedure, once introduced by the psychoanalyst, independent of and separated from the actual psychoanalytic situation. While it is possible to isolate the external procedure from the analysis, the patients' emotional reactions to it necessarily become a topic of the analysis. It is not possible to describe all the attitudes depending upon so many factors. We wish, however, to cite some typical reactions. At the beginning of this investigation, some patients complained about the inconvenience; some felt like martyrs and utilized the procedure to act out some masochistic fantasy in relation to the analyst; some acted out sexual fantasies through this practice of giving sexual products to him. Like any other acting-out

in the transference situation, these *fantasies became material of the analysis* and therefore they cannot be regarded as a serious interference with the analysis. One patient (Case I) was at first inhibited in the expression of her sexuality because she felt that her analyst was directly observing her in the sexual act. This reaction, however, persisted until it was analyzed. Following the analysis of this attitude, the investigation provided her with narcissistic gratification. She rarely mentioned the whole procedure and she was extremely conscientious in her cooperation. Patients who are sexually inhibited need a long psychoanalytic preparation before they can bring themselves to the manipulations necessary for preparing the smears. Such patients usually complained of the procedure during the analysis, used all kinds of excuses to avoid preparing smears, and soon discontinued making them.

Another objection might be that the patients, because of preparing the vaginal smears and because of their knowledge of the purpose of the investigation, would become conscious of the sexual cycle so that the cyclical change would become the central and most transparent material of their psychoanalysis. A study of the psychoanalytic record shows that this is not the fact. The psychoanalytic record of every case was studied from the beginning of the treatment, even before the patient knew anything about the investigation and before she began to prepare vaginal smears. This study revealed no important reactions to the beginning of the investigation and no essential changes in the material. We had detected the sexual cycle in the psychoanalytic material before the laboratory investigation started, and we used this knowledge of the individual's reaction as comparative material in evaluating the psychodynamic manifestations of the sexual cycle. One might also expect that our subjects would be inclined to discuss the facts of the sexual cycle and thus use this as a defense against other more important material. This assumption was not substantiated. In only one case did the knowledge of the sexual cycle enter into the manifest content of the psychoanalysis as resistance. Case XV often explained her own dreams or gave associations to them in such terms as: "This is related to ovulation" or "This shows my postovulative phase." Usually she was mistaken in her predictions, which she offered in competition with her psychoanalyst. In her masculine protest she wanted to prove to her psychoanalyst, a man, that he could not find out any more about her than she herself was able to observe and willing to admit.

In summarizing our impressions, we can state that the taking of smears did not interfere with the psychoanalytic treatment in any way which could not be handled by the usual psychoanalytic pro-

cedure. We have to add, however, that the psychoanalytic procedure quite often interfered with the conscientious cooperation of the patients in the experiment. During a period of resistance, the patient often failed to make smears. Since the psychoanalyst did not ask about the smears, he had no means of controlling the patient in this respect. After the resolution of the resistance, the patients would confess that they did not prepare smears for a period of time. Sometimes such periods lasted for two to three weeks, thus rendering useless the investigation of one or more cycles involved. Again, the patient, acting out some infantile spite reaction, would put a blank slide in the box. The conscientious and compulsive patients were generally reliable in the preparation of the slide material, while those who were depressed or unreliable did not make smears or failed to mark them properly. Sabotage in this field showed great variation but we must keep in mind that we were working with material of neurotic human beings who are bound to present great irregularities.

Case Histories

We present a brief history and clinical description of each case included in this study.

Case I. Thirty-seven-year-old married white woman, with one child, a son, eight years old.

Clinical Diagnosis: Neurotic depression, reactive to puerperal psychosis; great variety of psychosomatic symptoms: nausea, constipation, rheumatic pains, pruritus.

This patient suffered a severe depression, accompanied by a hypochondriacal fear of cancer, when she was about twenty years of age, at which time she was engaged to be married. This symptom-complex developed as an "actual neurosis" which was a reaction to sexual activities without adequate gratification. Although the anxiety had receded, the depression continued. In her marriage she was frigid, although she experienced keen sexual desire. During her pregnancy she developed an illusion, accompanied by panic, that her baby was not the child of her husband and that because of the child, her sexual guilt would be exposed; later she suffered from a compulsive fear that she might hurt or kill the baby. To check her aggressive impulses toward the child, she developed compulsive techniques and various symptoms. She was aware that she was mentally, not physically ill, and she tried to cure herself through sexual gratification, which she sought with avidity. In a relatively short time she had two abortions, and sterilization was advised. After this operation she lost interest in sexual

affairs; her mood swings and her various psychosomatic symptoms, however, remained the same.

When she came to be psychoanalyzed several years later, her symptoms proved to represent an emotional cycle as a reaction to her gonadal function. The gonadal function was normal, but her emotional reaction to the hormones was more marked than we generally expect or observe.

A detailed study of this case follows in Chapter 9.

Case II. Thirty-five-year-old married white woman with one child, a son, six years old.

Clinical Diagnosis: Neurotic character, obesity.

General physical examination revealed a rather uniform obesity and a somewhat coarse, dry skin, but no other findings. Gynecological examination showed no pathological findings. B.M.R.: minus 3.

The patient had long been aware of severe character difficulties, but she sought the help of psychoanalysis because of an acute depression which followed a confession by her husband of an extramarital relationship. This depression had its beginning when she tried to take revenge on her husband by means of her own sexual activity. In the first psychoanalytic interview she stated that the effect of her husband's infidelity had been so disturbing because her father also had had extramarital sexual relations, about which she learned at the time of puberty. This, she said, was the greatest trauma of her life.

The patient was the eldest of six children in the family of a farmer. The next youngest child, a brother, was born when she was seven years old. When she was thirteen, another son was born; this child died when he was six months old. The psychoanalytic material shows that the patient's early development was happy; she was much attached to her father, and this happy relationship was not disturbed before puberty. On the farm she had observed sexual activities among animals. She herself had indulged fairly freely in sexual play. Toward her mother she developed a strong ambivalence. She felt not only competition and hatred toward her but also a deep dependence upon her; she often dreamed of a time when she could enjoy her mother's love undisturbed. She was eleven and a half years old when menstruation began, but she recalled no serious reaction to this event. According to her account, her father's infidelity was the severe trauma in her life. She hated her father, whom she regarded as unfaithful not only to her mother but also to her; she did not wish to be like her mother who had suffered this humiliation. From the time of the discovery of her father's defection, she sought to gain satisfaction through intellectual achievement; she tried to show that she was better than her

father. This accounts for the fact that later on she assumed financial responsibility for the family, although this was unnecessary. She even took over the care of the farm. This masculine protest, though helpful perhaps in achieving her professional goal, later in life caused her great difficulty in her work because she could not accept either male or female superiors. Her child was born in the fifth year of her marriage. Though the pregnancy and parturition were normal, her emotional relationship to the child was highly neurotic. To explain the motives of the relationship would demand a more detailed account of her personality development than we can present here. After the child's birth her menstruation became irregular and the periods were short. She began to gain weight until she became very obese. Following the confession of her husband, she became depressed and confused and could not decide where to turn or what to do. Then the wish to avenge herself crystallized and she started to have extramarital relationships herself, becoming quite promiscuous. This acting-out kept her in a constant emotional turmoil but did not change her basic dependence upon her husband, who made her suffer what her mother had suffered.

The psychoanalysis showed that, following the severe disappointment in her father, the patient's emotional life was characterized mainly by a feeling of being frustrated and rejected. She lost all confidence in herself as a woman, in her ability to attract and keep a man. This fear of rejection produced in her a deep feeling of inferiority. One method of avoiding this painful feeling was by means of a masculine identification; another was an immediate reassurance by gratification. Her acting-out, her promiscuity, and her overeating all served this purpose. The psychoanalytic study of this case showed a personality of normal psychosexual development. The developmental disturbance occurred during puberty and caused regressive reaction formations in a personality which had reached genital psychosexual maturity.

Case III. Thirty-one-year-old married white woman.

Clinical Diagnosis: Neurotic character, frigidity.

This patient was accepted for psychoanalytic treatment because of emotional difficulties which may be briefly described as masculine protest against the feminine sexual role, which she conceived to be masochistic. The main symptoms of this defense reaction were frigidity and fear of pregnancy. The developmental history of this quite typical neurosis may be omitted here. Menstruation was established when the patient was thirteen years of age; the menstrual cycles were regular, though the patient suffered from slight dysmenorrhea.

Case IV. Twenty-seven-year-old married white woman, who had separated from her husband a short time after marriage.

Clinical Diagnosis: Reactive depression; narcissistic character. This patient sought the help of psychoanalysis because of her depression, which was a reaction to her marital unhappiness. Her husband wanted a divorce, and she felt a need for help in preparing herself for this step, which represented a narcissistic blow.

The patient was the elder of two daughters of a middle-class Jewish family. Her early development did not show any important trauma other than the birth of her sister, two years younger, toward whom she nourished great envy. She felt deprived, and she complained of her rejecting mother and her ineffective father, both of whom were unable to gratify her demands. The driving factor of her later development was the wish to be better than her family and to impress her parents with her achievements. Underneath, she remained a frustrated and deprived child who needed reassurance through achievement and compliments. The narcissistic defense against her dependence, which was her most characteristic emotional conflict, motivated her relationship to men as well as to women. Marriage meant security, not only in an economic sense but even more in an emotional sense, since it saved her from further competition with women for the attention of men. Consequently divorce reopened the old conflict and made it keener than before. The psychoanalytic material was therefore dominated by her increased need for dependence and reassurance and by her narcissistic defense against the actual frustration.

The sexual development of this patient was normal. Though she started to menstruate early, at eleven years, menstruation did not represent an emotional shock for her; it was always regular, normal, and without symptoms.

Case V. Thirty-one-year-old married white woman, with two children, nine and six.

Clinical Diagnosis: Acute anxiety attacks, hyperthyroidism.

This patient was referred for psychoanalytic treatment because of her anxiety attacks, which were accompanied by rapid heartbeat, faintness, sensations of cold, and generalized shaking. These symptoms had become much more acute after her younger sister moved into the same apartment building where the patient lived with her own family and her parents. The building was owned by her mother. At the time of the exacerbation of her anxiety, she was examined at the Illinois Research Hospital. Her B.M.R. was found to be plus 26 and plus 27 on one occasion, and plus 15 on another. Pulse rate was 100, blood pressure 126/90. She had a palpable enlarged thyroid. A diag-

nosis of hyperthyroidism was made, but she was advised against surgery, and was treated with bed rest. During this period she had resorted to Christian Science, but she could not attain the placidity which she had observed in her friends of this faith. Her main conflict was with her children, whom she rejected, and with her husband, who was not able to satisfy her dependent needs.

The patient was the eldest of three children; she had a brother, two and a half years younger, and a sister, seven years her junior. As an only daughter until she was seven, she developed a strong attachment to the father, who was a passive individual, obviously dominated by his wife. The patient vividly remembered her mother's last pregnancy because the mother was quite upset during that time; she wanted an abortion and threatened suicide. After the little girl was born, the mother became oversolicitous of her and did not permit the patient to be alone with the baby because she was afraid that the child might harm it. The patient did not get along well with this sister, who, she believed, became not only the favorite of the mother but of the father also. When the patient was eleven years of age she developed a goiter which later disappeared. Her first menstrual flow occurred between her eleventh and twelfth year. She married when she was twenty-one and soon became pregnant. Her mother projected her own conflict regarding pregnancy onto the patient, objected to the pregnancy, and gave her daughter medicine in order to induce an abortion. This attempt was unsuccessful; the pregnancy continued and became the happiest period of her life. She was without any physical and mental symptoms, without any anxiety. The parturition was normal, but after the baby was born her happy period was over. She was completely helpless with the child; she was afraid to touch him or to be alone with him, thus repeating the same behavior toward her own son that her mother demanded of her toward her baby sister. Toward her child she always felt restrained anxiety, an aggressive impulse which was hard to conceal. Three years later she became pregnant again, and the same story repeated itself. Again she felt well and happy during the pregnancy, but she rejected the child. Although her relationship to her second child, a daughter, was somewhat better than that to her son, she and her children were in constant conflict with one another. Both children showed serious developmental disturbances because of their rejection by the mother. The patient's neurotic condition continued for many years. The infantile trauma was repeated for a third time when her sister came to live under the same roof with her and with the parents. At this time she developed hyperthyroidism. The patient's menstrual cycles were always irregular until the onset of hyperthyroidism, after which the cycles were from 28 to 30 days

long and the menstrual flow was abundant. Before the onset of the menstrual flow, her psychosomatic symptoms increased and her anxiety was intensified. In addition, she showed a great variety of other symptoms, such as eczema, oozing from the ear, and high blood pressure. The patient was asked to prepare vaginal smears, but she was emotionally unable to cooperate for a long time. Hence we have slide material for only the last four cycles of her analysis, when she felt better and was more able to take responsibility.

Case VI. Thirty-two-year-old married white woman with one child, six years of age.

Clinical Diagnosis: Hay fever, eczema, migraine, functional sterility (?).

This patient was accepted for psychoanalytic treatment because of various psychosomatic disturbances; she was suffering severely from hay fever and migraine at the beginning of the treatment. She was especially concerned about her ability to have more children. During the two and a half years previous to the psychoanalytic treatment, she wished and tried to become pregnant but without success.

Menstruation was established when she was thirteen years of age. Her menstrual periods were somewhat irregular and accompanied by severe dysmenorrhea. Consciously, she always felt happy to be a woman, and from her earliest youth she had fantasies of having many children. Although menstruation was often painful, she was consciously proud of it and never called it a "curse." After her first child was born, the dysmenorrhea disappeared. She did not become pregnant again, although she was eager to have another child. She believed she knew when her ovulation occurred because she felt what is called *Mittelschmerz*. During the course of the analysis, in the cycle in which she became pregnant, she did not have *Mittelschmerz*.

Case VII. Twenty-seven-year-old unmarried white woman.

Clinical Diagnosis: Polyphagia, alimentary obesity, depression, oligomenorrhea.

This patient suffered from attacks of an almost insatiable desire to eat, without feelings of appetite or hunger. This symptom developed after the birth of her youngest brother when she was nine years old; it became more severe after puberty, at which time she suddenly began to gain weight. From then on the craving for food became the central symptom of her neurosis; it was her consolation and her despair. This symptom dominated her emotional life so completely that she was hardly aware of her chronic depression, which was the psychodynamic source of the craving.

The onset of menstruation, which occurred when the patient was twelve years old, was at first normal. When she was sixteen the flow became scanty and the menstrual periods became longer, until she menstruated only every two or three months. The longest period of amenorrhea was six months. After taking a reducing treatment, her periods returned to some degree of regularity. At the beginning of the psychoanalytic treatment, the menstrual flow occurred every five or six weeks and the flow was moderate, of from three to four days' duration. During the psychoanalytic treatment, her menstrual periods approximated normality; they became shorter, and the flow became more abundant.

A detailed study of this case follows in Chapter 9.

Case VIII. Thirty-four-year-old unmarried white woman.

Clinical Diagnosis: Compulsive neurotic character, overt homosexuality.

This patient sought the help of psychoanalysis because of difficulties in her work and in other human relationships.

The onset of menstruation occurred when the patient was approximately sixteen years old; it was irregular for several years, but dysmenorrhea did not develop until the patient was twenty. At this time she had such severe cramps that she often fainted. The discomfort began before the onset of the flow, with nausea and vomiting, and reached a peak on the first day of the flow. When she was about twenty-nine the dysmenorrhea disappeared quite suddenly, and, although the character of the menstrual cycle remained the same, she had no severe cramps; nausea and vomiting occurred infrequently.

A detailed study of her character neurosis and its manifestations in the sexual cycles follows in Chapter 9.

Case IX. Thirty-year-old married white woman.

Clinical Diagnosis: Severe phobic state (agoraphobia), schizoid personality, dysmenorrhea.

When the patient was thirteen years of age, just before she was to be graduated from elementary school, she developed an acute fear of going out of the house alone. She was afraid she was going to die, and from then on she was constantly beset by phobias of all kinds, fear of being alone, of screaming, of fainting, and of eating certain foods. She also presented definite obsessive and compulsive symptoms.

The onset of menstruation at the age of thirteen is associated with memories of severe pain, combined with nausea and vomiting. Her periods were fairly regular and the flow moderate. The dysmenorrhea continued up to the time of the study. In spite of her general inhibi-

tions and her fear of sexuality, this patient was cooperative in preparing vaginal smears, except during the menstrual flow.

A more detailed developmental history and a study of her sexual cycles follow in Chapter 9.

Case X. Thirty-one-year-old married white woman.

Clinical Diagnosis: Hysterical character, homosexuality, dysmenorrhea, oligomenorrhea, migraine, colitis, endocrine disturbance (?).

The patient underwent physical examinations which were repeated several times during the psychoanalytic treatment. From the various reports we summarize (a) endocrinological findings: classical pituitary fat distribution—heavy trunk and slender extremities; heavy growth of hair on arms, legs, and face; thyroid not palpated. B.M.R., minus 11. Urine assays of gonadotropic hormones did not show abnormality of pituitary function (later the endocrinologist of another clinic also found that her “endocrine signs” could be neglected); (b) gastrointestinal findings: April, 1938, by X-ray investigation, adhesions were found which might interfere with the passage of intestinal content; December, 1939, X-ray investigation showed a small duodenal ulcer; the physician did not mention the adhesions and advised the correction of the nervous factor; stool was negative for parasites; blood pressure varied between 104 and 130 systolic; B.M.R. varied between minus 3 and minus 12; gynecological findings were normal. There was no explanation in all these findings for her oligomenorrhea and the symptom-complex connected with it. The findings of the vaginal-smear technique correlated with the psychosomatic symptoms, and the psychodynamic material showed quite characteristic results.

This patient entered psychoanalysis because of her marital difficulties. Her marriage became a stage for acting out a severe neurosis in which homosexuality played an important part. In the face of these troubles, the great variety of her severe psychosomatic symptoms seemed unimportant; she handled her physical suffering consciously as another expression of her neurosis. Chief among these symptoms was abdominal distress; she had attacks of colitis, combined with nausea and vomiting, and accompanied by severe abdominal cramps. The stool contained a great deal of mucus but no blood. Sometimes these attacks lasted for several days, at other times for several weeks; the patient did not differentiate them from her premenstrual and menstrual disturbances. She felt that the attacks had some relation to menstruation, however, and she often expected the menstrual flow after the onset of colitis. The menstrual flow occurred irregularly, at intervals of six to twelve weeks. During the flow her headaches were

more severe. In spite of her abdominal disturbances, she gained weight easily and was inclined to polyphagia.

The patient was the eldest of three daughters of a middle-class Jewish family. The next sister was four years younger; the last, thirteen years her junior. Several women in the father's family had developed hirsutism and obesity. The father was an active, successful businessman to whom the patient, as well as the other members of the family, attached a fantasy of power and wealth, much greater than he ever had. They were never able to accept his financial failure. The mother was a passive, submissive woman who understood, however, how to attain her aims by means of her helplessness. It is important to mention that the patient was a restless baby who cried day and night. She was told that one member of the family was always pacing the floor with her. Little is known about her toilet training. The patient remembered the birth of her next younger sister, when she was four years old, and recalled that she was sent to kindergarten at about this time. These two events were related in her memory; she accepted both as a deprivation of love and care. Whether this trauma alone or some other event was responsible for her development, or it in combination with other events, we cannot say. From the history, however, as well as from the analytic material, we can assume that a serious dynamic conflict motivated her behavior. As a child she was very sensitive, and although she reacted to the new child with great envy, she very early began to take on the behavior of an adult. "To pretend" became her motto, which continued throughout her life. Her "pretenses" were much more exaggerated than is normal for children; she lied a great deal and she was active and aggressive in sexual play. To carry out her pretenses of being an adult, she would suck the mucous membrane of her mouth until she brought blood and then would tell other children that she was menstruating. In her psychoanalysis we found that this pretense did not express the wish to be a woman but rather the desire to be something which the other children were not. With the same motive, she fantasied and tried to pretend that she was a man; she was active in homosexual play from the age of ten or eleven. When she was about ten years old her mother talked to her about the marital infidelity of her father. This was such a great shock to the patient that we feel justified in assuming that her wish not to be a woman and her pretense of being a man were very much reinforced by this trauma.

When menstruation began at thirteen the patient experienced it as a shock, despite her previous fantasies. She did not go through the usual sexual latency period before puberty, but during puberty she gave up all sexual play, from thirteen to seventeen. At seventeen she

began to have dates with boys. This threw her into a panic because of her deeply ingrained masochistic concept of female sexuality, a concept for which she had overcompensated so early in her life by sexual activity. She was a vivacious, good-looking girl; she pretended to men that she knew everything about sex. Although she always played with fire, she was frightened and worried. Until the age of twenty-one she was free of physical symptoms; her menstruation was normal; her weight was normal. About this time she met her present husband and lived with him sexually without marriage. Whether coitus and her emotional reactions played a causative role in her symptom-complex, or whether this was only coincidental, we do not know. She dates all her symptoms, however, from the age of twenty-one. Then hair began to grow on her face, arms, and legs; her menstruation became irregular; dysmenorrhea developed; and her weight suddenly began to increase. With these somatic symptoms the syndrome of her neurotic character flourished. One has the impression that this is a revival of her childhood neurosis. In addition to the heterosexual relationship, she indulged in homosexual affairs; she fantasied and "acted out" a great deal. Because of economic difficulties her fiancé left town to work in another city, and when the patient visited him she discovered that he was living with another woman. To this she reacted with great shock and had a "nervous breakdown." Whatever the symptoms of the breakdown were, she returned to her home town and soon after had a gall-bladder operation. She claims that the present symptoms of colitis, nausea, and vomiting developed after this operation. In spite of her deep disappointment in her fiancé, she could not give him up, and they were married soon after her operation. The psychodynamic motives behind this step were more complex than one would expect. The marriage was motivated not only by her dependence on her fiancé, by her inability to give up someone, and by the fact that her fiancé's infidelity represented a repetition of her childhood trauma; but more than all these, it seems to have been determined by her need to identify herself with her fiancé. She developed an enthusiastic friendship for the girl friend of her husband and they lived for a time in a *ménage à trois*. Thus she succeeded in "emasculating" her husband, although she watched him with the anxious neurotic jealousy of the homosexual. The marriage, based on this identification, represented a neurotic vicious circle; the more effeminate the husband became, the more she complained about her unsatisfied feminine desires which she tried to satisfy through fantasy.

In spite of the fact that her symptoms indicated a gonadal dysfunction, she had become pregnant once, four years before she came for psychoanalytic treatment. The pregnancy represented a deep

threat to her, and, after an accident, an abortion was induced. Whether or not she could have carried the pregnancy through successfully we do not know. Since then she has not become pregnant again.

It is characteristic of the psychodynamic correlations in this case, as in Case XV, that dreams and fantasies appear highly charged with emotion, and that sexual desire appears to be especially intense, while the corresponding hormone level, as determined by the vaginal smears, remains relatively low. The hormonal cycle shows an interesting correlation with the sexual cycle. During the estrogen phase of the cycle she was free from abdominal symptoms. The nausea and vomiting and the colitis started with the appearance of progesterone or shortly thereafter. The estrogen phase was of normal duration, ten to fourteen days, although the hormone level was low; the progesterone phase was unusually long, with variable low levels of hormone production which caused the long cycles. The seventh cycle, 91 days, represents three cycles. The first was from March 8 to April 12, with microscopic bleeding on April 12; the next was from April 13 to May 9, with ovulation on April 29, which was predicted; the third was from May 10 to June 7, when bleeding was recognized as menstruation.

Case XI. Twenty-five-year-old unmarried white woman.

Clinical Diagnosis: Urticaria, dysmenorrhea, and inclination to polyphagia.

This patient's chief complaint was generalized urticaria, which made hospitalization necessary. She also suffered from headaches and from a severe dysmenorrhea which often kept her in bed for several days at the beginning of the menstrual flow.

Menstruation was established with some regularity after the patient was fifteen years of age. Her cycles were always irregular and long, the menstrual flow profuse. Severe dysmenorrhea developed about four years before she began psychoanalysis and continued during the whole treatment.

A more detailed developmental history and a study of her sexual cycles follow in Chapter 9.

Case XII. Twenty-seven-year-old unmarried white woman.

Clinical Diagnosis: Inhibited character, oligomenorrhea, hypogonadism (?).

This patient was accepted for psychoanalytic treatment because of inhibitions which made work and human relationships difficult. She complained chiefly of shyness and inability to make any lasting contacts with men. She was worried about her increased need for sleep and about her inclination to gluttony at any time she felt frustrated. These symptoms were especially disconcerting because her mother

was obese and several members of the family showed signs of endocrine imbalance.

A more detailed study of this case will be given in Chapter 9.

Case XIII. Thirty-year-old unmarried white woman.

Clinical Diagnosis: Inhibited character, oligomenorrhea, hypogonadism.

This patient sought the help of psychoanalysis because she suffered from headaches and depression. Her main complaints were shyness and painful self-consciousness in the presence of men. Emotionally she was not disturbed by the oligomenorrhea, which had developed during the four years preceding the analysis. This condition she accepted as a relief and as a sign of her diminishing sexual needs and of her troubles.

Menstruation was established at the age of twelve. The periods were regular and the flow average until about four years before psychoanalytic treatment, when it became irregular and scanty. Previous to the treatment, she menstruated only twice a year. A urine assay for gonadotropic hormones, made shortly before the psychoanalysis started, showed a total lack of prolactin. In spite of this, shortly after the beginning of psychoanalysis, she had a menstrual flow, and since then she has menstruated at more regular intervals.

A detailed study of this case follows in Chapter 9.

Case XIV. Twenty-five-year-old unmarried colored woman.

Clinical Diagnosis: Depression, polyphagia, alimentary obesity, oligomenorrhea.

Physical examination revealed an even distribution of obesity; no thyroid enlargement. There was no finding of significance.

This patient began to suffer from depression and gluttony about five years before the analysis while she lived in the house of her married elder sister. From that time on, her menstruation was irregular and scant. She had periods of oligomenorrhea of three to five months' duration. She was treated for two years with thyroid and ovarian extracts without result.

This patient was the third of four children in a middle-class Negro family. Her father and mother were schoolteachers who set a high moral standard for the family. The patient had a brother five years older, a sister two and a half years older, and a sister two and a half years younger. She remembered the birth of her younger sister, which made a deep impression upon her. From that time on she felt that no one liked her; when she was four years old she asked her mother if she were an adopted child. She was always envious of her older sister, who was the favorite of the grandmother and who was as domineer-

ing toward her as the grandmother was toward the patient's mother. The patient and her older sister indulged in mutual masturbation for a long time, and the patient developed a deep homosexual attachment to her. When the patient was seventeen, she detected her older sister in sexual play with a young man and was greatly disturbed. She was shocked when her sister became pregnant extramaritally. She thought that "the world was coming to an end," and from that time on she refused all dates with men until her sister married. Then she went to live with this sister in order to secure a college education. The emotional strain of this arrangement was great; she suffered from jealousy because her sister did not belong to her and from sexual tension aroused by the awareness of her sister's sexual life. To defend herself against her homosexuality and to prove to herself that she could be like her sister, she entered extramarital sexual relationship. The sexual gratification served, however, to deepen the conflict rather than to relieve it. Fear of pregnancy and guilt because of sexuality activated her depression. She continued the sexual affair; she even had genital gratification, but emotionally she regressed and her real gratification returned to an oral form. Eating became her only comfort. She preferred rich baby food, especially milk, sweets, and ice cream. She slept a great deal. In this manner she gratified herself as a child, thus creating an imaginary impregnation which would save her from a real pregnancy.

Menstruation was established when she was thirteen; the menstrual flow was regular and normal until five years before the analysis, when her present symptom-complex developed. She began to eat great amounts; her weight increased from 127 to 196 pounds.

At the beginning of the psychoanalysis she had periods of oligomenorrhea of three months' duration; in the second year of the analysis, the flow occurred at first at 35- to 42-day intervals; then the cycles became shorter, 33 to 31 days. Though she was asked for cooperation during the whole second year of her analysis, she very seldom prepared slides. Hence we can report only one cycle.

Case XV. Twenty-nine-year-old married white woman.

Clinical Diagnosis: Manifest homosexuality, neurotic character.

This patient married about a year before the analysis. She had great emotional difficulties in adjusting herself to the marriage and in giving up homosexual activities.

The patient was the first of two daughters. Her sister was born when she was not quite two years old. She reacted to this event by crying day and night, thus demanding constant attention. This early discontent turned into open hostility toward the sibling, which did not

cease until she reached adulthood. The patient admired her father and wanted to imitate his mannerisms. In spite of the fact that she was the eldest and had no brothers, boys had great influence on her development, especially a cousin, four years older, who lived near by. He teased her with exquisite sadism, and the patient blamed him for her sensitiveness to criticism of any kind. Later, when she was between eight and ten, she and this cousin and his younger brother formed a "secret club" with the purpose of sexual experimentation. As the patient described these activities, she was closely identified with the boys rather than competitive with them. The three combined in tormenting the younger sister and the girl cousins, who were considered "weaklings." The patient, however, always envied the femi-

TABLE 1

General survey of the case material. This table presents the number of cycles of each patient studied, the length of cycle, the frequency of ovulative as compared with anovulative cycles, the number of cycles for which material was insufficient for characterization as either ovulative or anovulative, and finally the length of the interval from ovulation to the next menstruation (O-M Interval). It should be noted that while ovulation occurred characteristically in the mid-interval between menstrual periods and that while the average time is 14.5 days before the next menstrual flow, the range of variation is extremely wide: 4-26 days.

| PATIENT | No. OF CYCLES | LENGTH OF CYCLE | | OVULATION | | NO DIAGNOSTIC MATERIAL IN OVULATIVE PHASE | O-M INTERVAL | |
|---------|---------------|-----------------|----------------|-----------|---|---|--------------|-------|
| | | Mean | Range | + | - | | Mean | Range |
| I* | 25 | 27.7 | 21-37 | 21† | 5 | 0 | 15.0 | 8-24 |
| II | 12 | 26.6 | 23-30 | 8 | 2 | 2 | 14.4 | 9-19 |
| III | 8 | 24.6 | 18-31 | 3 | 2 | 3 | 15.1 | 13-21 |
| IV | 7 | 26.0 | 24-28 | 2 | 2 | 3 | 15.2 | 12-17 |
| V | 4 | 28.3 | 28-29 | 2 | 1 | 1 | 14.5 | 13-15 |
| VI* | 4 | 26.5 | 21-32 | 1 | 1 | 1 | — | — |
| VII | 13 | 31.2 | 28-35 | 4 | 8 | 1 | 16.2 | 12-21 |
| VIII | 20 | 23.3 | 17-28 | 5 | 9 | 6 | 14.2 | 11-18 |
| IX | 21 | 26.4 | 23-29 | 11 | 4 | 6 | 13.6 | 7-20 |
| X** | 7 | 36.6 50.4 | 23-52 29-89 | 1 | 6 | 2 | 14.3 | 12-16 |
| XI | 8 | 30.2 | 28-35 | 2 | 4 | 2 | 15.8 | 13-17 |
| XII | 10 | 27.3 | 17-31 | 3 | 6 | 1 | 16.2 | 7-26 |
| XIII | 8 | 29.8 | 23-38 | 2 | 5 | 1 | 9.2 | 4-21 |
| XIV | 1 | 31.0 | — | 1 | — | — | — | — |
| XV | 4 | 28.0 | 27-29 | — | 4 | — | 17.0 | — |

* The 15th cycle of patient I was incomplete and therefore omitted. Pregnancy occurred in the 4th cycle of patient VI and therefore this cycle was omitted.

† Ovulation occurred twice in one cycle.

** While this patient had only 7 cycles, 2 of them were really double, 52 and 89 days respectively. Each double cycle had two preovulatory and postovulatory phases, thus accounting for the 9 crucial phases reported.

nine beauty of her sister ; she suffered because of her own "square and heavy" figure and because of her bad complexion. While she was proud of her hands because they were exact replicas of her father's—square, large, and spatulate—she was secretly ashamed of their masculine skill and lack of daintiness. Longing to be feminine, she became more and more masculine in her behavior. Her mother died when she was thirteen years old ; the father married again. The influence of these events on her development cannot be adequately evaluated because of the lack of psychoanalytic material.

She began to menstruate when she was eleven and was proud to be "grown up" so early. Her extreme masculine protest against menstruation, against the feminine sexual role, later became intensified. She suffered from a slight degree of dysmenorrhea.

The numbers of cycles of each patient studied, the range and average length of the cycles, the number of ovulations found, and the length of the interval from ovulation to the subsequent menstruation are presented in Table 1.

Evaluation of the Material

The material, psychoanalytic as well as histological, is far from complete. We are aware that both methods, the vaginal-smear technique and psychoanalysis, are open to discussion as instruments of biological research. In spite of their limitations, however, the two methods offer a unique opportunity to compare and correlate results. Of all the methods available for investigating ovulation and of following the course of the sexual cycle in women day by day, the vaginal-smear, basal body-temperature technique is the only one which can be carried through for a long period of time. Of all psychological methods available, it is safe to say that the psychoanalytic procedure permits the best insight into the greatest variety of motives of human behavior and also makes possible observation for many months or even for years. Another factor which makes the results of the two methods suitable for comparison is that the intervals of observation are almost the same. The vaginal smears are taken by the patient every morning, the psychoanalytic session is planned to occur every day. However, the rhythm of these investigations based on the material of 24-hour periods was often interrupted for various reasons.

Among the several motives which interfered with the patients' regularity in preparing vaginal smears, we should refer to one in particular because of its peculiarity and importance. This concerns ovulation itself. It was observed in the material of cases who were not in

psychoanalytic treatment that the subjects often failed to prepare smears on the crucial day when ovulation presumably occurred. The previous slide would show the characteristics of the preovulative, and the following slide those of the postovulative state. Whether the ovulative relaxation and the consequent narcissistic withdrawal, or the increased sexual desire, interfered with the preparation of the slide in a given case, we do not know. It is necessary to present this interesting fact because it is one of the reasons why we often do not have slides on the crucial day of the cycle.

Patients were inclined to be especially reluctant to prepare vaginal smears during the menstrual flow. At the beginning of this investigation we did not ask them to prepare vaginal smears during this period. Most of the 152 cycles are therefore not complete because slides for this period are lacking. Later we asked the patients to prepare slides during the menstrual flow also. Some of them, like Case IX, refused to do so, while others promised cooperation and prepared the smears, although with frequent omissions. We omitted those slides which were unsatisfactory, either because of pathology or because of technical defects. On the other hand, the continuity of the psychoanalytic material was also interrupted; since patients are not seen over week ends or during vacations, there are frequently cancellations of the psychoanalytic sessions. In addition, if the psychoanalytic record was unsatisfactory, we did not have psychoanalytic material even when vaginal smears were available.

In the following statistical evaluation we counted only those days on which both types of material were available for comparison and left out all those in which either the one or the other was missing. Thus the data presented here appear to be fewer and less reliable for our conclusions than they actually are. Indeed we had complete data only on 2261 days in 152 cycles, which would indicate an average of 14.87 days for each 28-day cycle. Actually, we had much more material, since all the available good slides were evaluated; the histologist had no means of knowing whether on a given day psychological material was available or not. Thus he had a more complete picture of the cycle than is apparent from the data presented here. On the other hand, long stretches of psychoanalytic material were analyzed and interpreted. Thus we learned the special reactions of the individual and interpreted them in terms of hormone fluctuation. Even though such interpretation could not be controlled by the vaginal smear for the given day, these interpretations were helpful for comparison with other predictions that were confirmed by slides.

The time-scale of the comparison is 24 hours; that is, we regularly compared the psychoanalytic material of the given day with the

vaginal-smear findings of the same day. This, however, does not indicate adherence to a rigid time-correlation. While the smears were taken regularly at about the same time every day, the psychoanalytic sessions often occurred at different times of the day—sometimes in the morning, sometimes in the late afternoon—or the content of a psychoanalytic hour sometimes referred to moods and emotions prevalent on a previous day. The most important material—the dreams—was always related to the slide of the following morning. We sometimes allowed ourselves a choice as to whether we should correlate the psychoanalytic material produced in an analytic session at 6:00 P.M. with the smears taken on the same day or with the smears of the next day.

TABLE 2

SUMMARY OF TOTAL COMPARATIVE DATA SHOWING THE RESPECTIVE NUMBER OF DAYS WITH CORRECT PREDICTIONS AND WITH PARTIAL AND TOTAL DISCREPANCIES

| CASE No. | No. OF CYCLES | DISCREPANCIES | | | | CORRECT PREDICTIONS | TOTAL DAYS OF DATA |
|----------|---------------|---------------|----------|------------|-------|---------------------|--------------------|
| | | Partial | Complete | Duplicates | Total | | |
| I | 25 | 29 | 8 | 2 | 35 | 480 | 515 |
| II | 12 | 7 | 1 | 0 | 8 | 140 | 148 |
| III | 8 | 5 | 6 | 0 | 11 | 104 | 115 |
| IV | 7 | 3 | 1 | 1 | 3 | 105 | 108 |
| V | 4 | 2 | 0 | 0 | 2 | 46 | 48 |
| VI | 4 | 4 | 0 | 1 | 3 | 55 | 58 |
| VII | 13 | 14 | 0 | 1 | 13 | 256 | 269 |
| VIII | 20 | 10 | 2 | 2 | 10 | 192 | 202 |
| IX | 21 | 14 | 1 | 2 | 13 | 251 | 264 |
| X | 7 | 7 | 3 | 0 | 10 | 125 | 135 |
| XI | 8 | 4 | 0 | 0 | 4 | 61 | 65 |
| XII | 10 | 3 | 1 | 0 | 4 | 161 | 165 |
| XIII | 8 | 10 | 4 | 1 | 13 | 95 | 108 |
| XIV | 1 | 0 | 0 | 0 | 0 | 11 | 11 |
| XV | 4 | 2 | 2 | 0 | 4 | 46 | 50 |
| | 152 | 114 | 29 | 10 | 133 | 2128 | 2261 |

In Table 2 we present a survey of the numbers of days on which both investigators had adequate diagnostic data, the number of errors classified as partial and complete, and the number of predictions in agreement with the diagnosis. With regard to Table 2, it should be noted that for purposes of comparison it was assumed that the hormone diagnoses made on the basis of the vaginal smears and basal body-temperature data were always correct. We considered those discrepancies partial in which the prediction deviated from the diagnosis either quantitatively or with respect to the presence or absence of one hormone when the presence of both was either diagnosed or predicted. For any statistical summaries, both partial and complete discrepancies were treated as equal in weight and importance. This

table shows that the total of the errors in predictions was 133 or 6 per cent. Total discrepancies were 1.3 per cent of all the predictions.

It is evident that in the beginning of the study, comparison of the data had to be on a day-by-day scale, comparing the psychoanalytic interpretation and prediction of each day with the vaginal smear taken on the same day. As the study of the individual cases and the comparative material progressed, we often found, though not as a rule, that the initial changes of hormone production were recognizable in the psychoanalytic material, 12 to 24 or even 36 hours earlier than in the vaginal smear. It is worth further detailed investigations to determine which are the inner-psychic and the environmental factors that activate the expression of psychic reactions, so that in some instances they are prompt and keen, and in other instances they are delayed and sluggish. In no part of this book could we present so detailed an analysis of the complexity of motives as to show why the hormone reactions were recognizable earlier in one cycle of a patient than in another. It is quite obvious that there are also individual differences in reactions and their expression, as will be discussed later.

In the light of further studies we felt justified in correcting our predictions rather than regarding them as discrepancies when they corresponded with the vaginal smears of the following day. Of the 2128 correct predictions, 71 were achieved by such correction. If we count these 71 corrections as discrepancies, the errors in evaluation and prediction of the hormonal state—total, partial, and quantitative together—would amount to 204, that is, 9 per cent of all predictions.²

Table 3 is a summary comparison of the correct predictions and the errors, distributed according to hormone diagnosis.

For the evaluation of this table we must emphasize that the predictions tabulated here or on the tables of the individual cycles (Tables 17-42) or, for that matter, in any part of this study, do not reflect the hormonal status completely. While we state repeatedly that there is no progesterone production without estrogen, the purity of this investigation, in which our first task was to find the criteria for the single hormones separately, made it necessary that we should not state *estrogen* when our assays did not indicate it explicitly. This is true

² Because we corrected our findings when the material seemed to be conclusively related to the smears of the following day, we found it interesting to compare all the predictions with the vaginal smear of the following day, thus pushing all the predictions 24 hours ahead. This procedure changes the content of the correlations much more than is reflected in the numerical results. The sum of the errors in predictions is, then, 161, or 7 per cent of all predictions, that is, only 28 more than by day-by-day comparison. The relationship between total, partial, and quantitative discrepancies, however, shifts considerably. The total discrepancies according to this evaluation were 60; partial, 58; and quantitative, 43. Thus the total discrepancies become 2.6 per cent of all predictions. Although rigid adherence to this rule of shifting predictions to as much as 48 hours increases the number of errors only by 1 per cent, we find that such arbitrary rigidity does not reflect the subtle physiological changes. Thus relationship between psychic and hormonal reactions becomes so loose that it would make unreliable any attempt at psychosomatic correlations.

of the vaginal smears as well as of the psychoanalytic material. Although it was assumed that there was an estrogen production when the slide showed only cell types characteristic for progesterone production (types 5-6), this estrogen production was stated only if cell types characteristic for estrogen production also were recognized, that is, if in addition to cell types 5 and 6, cell types 3 and 4 were also present (see Chapter 3).

TABLE 3
DISTRIBUTION OF PREDICTIONS OF GONAD FUNCTION ON BASIS OF
THE PSYCHOLOGICAL DATA

| CASE No. | CORRECT PREDICTIONS "ESTROGEN" | | INCORRECT PREDICTIONS "ESTROGEN" | | CORRECT PREDICTIONS "PROGESTERONE" | | INCORRECT PREDICTIONS "PROGESTERONE" | | CORRECT PREDICTIONS "LOW HORMONE LEVEL" | | INCORRECT PREDICTIONS "LOW HORMONE LEVEL" | | TOTAL CORRECT PREDICTIONS | TOTAL INCORRECT PREDICTIONS | DUPLICATES* | | TOTAL CORRECT MINUS DUPLICATES |
|----------|-----------------------------------|--|-------------------------------------|----|---------------------------------------|--|---|----|--|--|--|----|------------------------------|--------------------------------|-------------|-----------|-----------------------------------|
| | | | C+ | p# | | | C+ | p# | | | C+ | p# | | | CORRECT | INCORRECT | |
| I | 133 | | 6 | 22 | 250 | | 0 | 7 | 125 | | 0 | 0 | 508 | | 28 | 2 | 480 |
| II | 65 | | 1 | 1 | 64 | | 0 | 1 | 22 | | 0 | 0 | 151 | 35 | 11 | 0 | 140 |
| III | 32 | | 1 | 2 | 59 | | 1 | 2 | 17 | | 4 | 5 | 108 | 8 | 4 | 0 | 104 |
| IV | 36 | | 0 | 3 | 44 | | 1 | 0 | 28 | | 0 | 0 | 108 | 11 | 3 | 1 | 105 |
| V | 20 | | 0 | 0 | 22 | | 0 | 1 | 6 | | 0 | 1 | 48 | 3 | 2 | 0 | 46 |
| VI | 14 | | 0 | 1 | 31 | | 0 | 1 | 12 | | 0 | 2 | 57 | 2 | 2 | 1 | 55 |
| VII | 81 | | 0 | 8 | 111 | | 0 | 6 | 71 | | 0 | 0 | 263 | 3 | 7 | 1 | 256 |
| VIII | 68 | | 1 | 3 | 93 | | 0 | 4 | 47 | | 1 | 3 | 208 | 13 | 16 | 2 | 192 |
| IX | 102 | | 0 | 6 | 133 | | 0 | 6 | 30 | | 1 | 2 | 265 | 10 | 14 | 2 | 251 |
| X | 29 | | 0 | 2 | 44 | | 2 | 2 | 56 | | 1 | 3 | 129 | 13 | 4 | 0 | 125 |
| XI | 21 | | 0 | 0 | 24 | | 0 | 4 | 19 | | 0 | 0 | 64 | 4 | 3 | 0 | 61 |
| XII | 45 | | 0 | 2 | 47 | | 1 | 0 | 73 | | 0 | 1 | 165 | 4 | 4 | 0 | 161 |
| XIII | 56 | | 2 | 3 | 13 | | 0 | 6 | 30 | | 2 | 1 | 99 | 4 | 4 | 1 | 95 |
| XIV | 6 | | 0 | 0 | 3 | | 0 | 0 | 3 | | 0 | 0 | 12 | 13 | 1 | 0 | 11 |
| XV | 23 | | 0 | 1 | 9 | | 0 | 1 | 16 | | 2 | 0 | 48 | 0 | 2 | 0 | 46 |
| | 731 | | 11 | 54 | 947 | | 5 | 41 | 555 | | 13 | 19 | 2233 | 133 | 105 | 10 | 2123 |

* Duplicates represent days on which both hormones were present and predicted.
C+: Complete error.
p#: Partial or quantitative error.

NOTE.—Figures represent days on which both investigators had data.

This strict adherence to our criteria was even more necessary in the evaluation of the psychoanalytic material. To explain this, we must refer once again to the incompleteness of our material and to its hazards (see Chapter 7). Our predictions were made upon the basis of the interpretation of the psychoanalytic material produced in 50-minute sessions and recorded, more or less completely, by the psychoanalyst. Incompleteness in the record will of course reflect the discretionary choice of the analyst. Thus our material does not have

the certain regularity of actual laboratory material. It is all the more interesting, therefore, that the content of these 50-minute sessions, as seen through the notes and with special attention to the dreams related by the patient, regularly show, on one day, active, object-directed tendencies, while on another day, in the same case report, there will be fantasies, memories, and associations in which the heterosexual tendencies are altogether absent or are overshadowed by introverted tendencies or by concentration upon childbearing, motherliness, and conflicts connected with these functions.

We have always predicted one hormone when analysis of the psychoanalytic material showed psychodynamic tendencies characteristic for only one hormone; we predicted both hormones only when characteristics of both hormones were present. Even if there is highly charged emotional material, the content of which we correlate solely with progesterone, we know, of course, that estrogen is also present. It would certainly not be permissible to state estrogen on the basis of psychoanalytic material unless this also reveals characteristic tendencies. We take into account that very little stimulus—for example, a question of the analyst—may reveal this masked estrogen. Nevertheless we deemed it proper not to speculate about its presence unless we had evidence for it. Thus we risked the danger of having “partial discrepancies” during the luteal phase of the cycle when the criteria for one of the assays permitted the statement of two hormones and the other stated only one; but we took this risk. We also left these discrepancies uncorrected in all our statistical evaluations. Had they been discounted, we should decrease the errors in Table 2 by 25 and in Table 3 by 10.

Such corrections are, however, unimportant; our aim was not to reconstruct the physiological process by our prediction, but to prove the reliability of the psychoanalytic technique for the recognition of biological reactions. Our effort was therefore concentrated upon the qualitative changes of the material as it was correlated with one or more hormones. Thus the fact that we know of the “ideal” ovarian cycle does not affect our formulation of the predictions, which represent a translation of psychodynamic tendencies into endocrinological terms.

The hormones, estrogen and progesterone, to be sure, do not act separately as if in watertight compartments, each bringing about widely different behavior on the same day. They act together, in fusion, influencing sexual behavior, which has a great variety of expression. Upon analysis of the motivation of behavior, we can segregate within the sexual drive the psychodynamic tendencies which are associated with each hormone.

Although the emotional manifestations of the preovulatory period are obviously different from those of the postovulatory phase, it is not a general impression which enables us to recognize the correlations. Analysis of the psychodynamic tendencies reveals the variations in direction and intensity of sexual drive, and it is upon this that we depend for prediction. The exactness of the definitions of these tendencies indicates the precision with which the hormonal state can be recognized (see Chapter 5).

TABLE 4

DISTRIBUTION OF THE PSYCHODYNAMIC TENDENCIES AND THE
CORRECT PREDICTIONS OF HORMONES

| HORMONE | ACTIVE TENDENCY IN VARIOUS MANIFESTATIONS | PASSIVE, RECEPTIVE, AND RETENTIVE TENDENCY IN VARIOUS MANIFESTATIONS | ELIMINATIVE, PREGENITAL, DESTRUCTIVE TENDENCY |
|-------------------|---|---|--|
| Estrogen | 1904 | 11 | 5 |
| Progesterone | 6 | 1721 | 14 |
| Low hormone level | 23 | 33 | 1188 |

Table 4 is a summary distribution of the psychodynamic tendencies used as a basis of the hormone predictions. The numbers represent only the psychodynamic tendencies which were related to correct predictions. The table therefore shows the validity of the general correlations within each category of psychodynamic tendencies, with the respective hormone diagnosis.

The distribution of the data from which this table was collected is presented in Chapter 5, Tables 6, 7, and 8.

CHAPTER 3

VAGINAL-SMEAR AND BASAL BODY-TEMPERATURE TECHNIQUES OF HORMONE EVALUATION

There are many theories concerning the mechanism of the sexual cycle in women. Discussion of these theories is irrelevant, since from a purely descriptive point of view most investigators agree about the course of events leading to and following ovulation, in the ovary, in the endometrium, and in the vagina.

Inasmuch as a description of the vaginal-smear technique and of the cycle of basal body temperatures and their joint evaluation constitute the theme of this chapter, it is appropriate that the subject be introduced by a brief description of the ovarian and endometrial cycles. A detailed description of these cycles may be found in *Sex and Internal Secretion* (Allen, 1938) and in the review articles on the physiology of the ovaries and endometrium in the *Journal of the American Medical Association* (Allen, 1941; Bartelmez, 1941; Corner, 1941; Engle, Levin, 1941; Fishbein, 1940).

Estrogen-secreting follicles begin to develop in the ovarian cortex. Until the follicles reach about 0.2 mm. in diameter and develop an antrum (a clear space filled with follicular fluid), little estrogen is secreted. The secretion of estrogenic hormone occurs chiefly in the larger follicles, that is, those presumably destined to rupture. As the follicle increases in size, the ovum which it contains undergoes characteristic division changes, meiosis, of which Waldeyer (Waldeyer-Hartz, 1870) presented the classical description in 1870. As the egg approaches maturity, it separates from the cumulus a halo of secreting cells (granulosa). The entire follicle gradually approaches the surface of the ovary and begins to bulge the ovarian capsule. The increased pressure of secreted fluid within the follicle causes the overlying structures to become thinner, until finally the capsule bursts at a point called the ovulation point. The fluid behind the ovum drives it through the opening. In the meantime, the fimbriated end of the oviduct approaches the ovary and surrounds that part of it which contains the maturing follicle so that the egg passes into the oviduct. After extrusion of the egg and the follicular fluid, the space which the follicle had occupied within the ovary is filled with a clot of blood.

The blood clot is soon invaded by some of the cells which had been in the halo around the ovum and by the lining cells of the follicle. The granulosa cells which had originally secreted only estrogenic hormone acquire a great deal of fatty substance, characteristically yellow in color, and become rich in vitamin A. These are then lutein cells (granulosa cells become lutein cells) which secrete both estrogenic hormone and progesterone. This forms the corpus luteum which attains its maximum functional capacity in about a week after ovulation. If pregnancy does not occur, the corpus luteum function begins to diminish; atresia and atrophy become noticeable about ten days after ovulation and continue until the corpus luteum function is extinguished, at about the time of the next menstrual period. During the period of degeneration of the corpus luteum, several new follicles begin to enlarge, of which one may be destined for the next ovulation. Thus the cycle repeats itself.

Occasionally a follicle develops as described above but fails, either for mechanical or hormonal reasons, to rupture. The ovum thus remains imprisoned. The granulosa cells surrounding the ovum are nevertheless converted into lutein cells, just as if ovulation had taken place; the cycle, to all outward appearances, seems normal, but it is anovulative. The difference in ovarian function between the ovulative cycle and an anovulative cycle such as this is only in the reduced rate at which luteinization of the follicle occurs. In some patients, and very frequently in adolescent girls, follicles develop but do not reach maturity. In such follicles true corpora lutea do not develop. The cycle follows a somewhat different pattern; it is essentially a one-hormone cycle.

During the first part, estrogen is produced in increasing amounts. During the second part, estrogen production diminishes. The bleeding which terminates such a cycle is essentially an "estrogen withdrawal bleeding" rather than the "progesterone withdrawal bleeding" which terminates the normal cycle.

Occasionally patients present other anomalous ovarian cyclical changes. Thus two ovulations, approximately two weeks apart, may occur within a single cycle. Our interpretation is that the occurrence of the first ovulation did not prevent the immediate development of another follicle; and so, when regression of the corpus luteum of the first ovulation occurred, the new follicle was already producing enough hormone to prevent menstruation. Finally, there are cycles, particularly common in older women, which are much longer than is usual in young women. The prolonged cycle may be due to persistence of a corpus luteum.

Endometrial Cycle

Under the influence of estrogenic hormone produced by the developing follicle, the lining of the uterus (the endometrium) is stimulated to growth. It grows progressively thicker; its glands remain straight but become longer; its blood supply becomes much greater; even the myometrium participates in the growth. While this growth is occurring, the glands do not secrete. When, after ovulation, the corpus luteum develops, the simultaneous presence of both estrogen and progesterone leads to continued growth of the endometrium and to an abundant secretion from the glands which in their continued growth become tortuous. The blood supply to the uterus also increases, and the blood vessels about the glands become twisted and looped; they become engorged with blood which seems not to drain away from the uterus as quickly as in the purely estrogenic phase of the cycle.

When, however, the corpus luteum begins to atrophy, and as a consequence progesterone is withdrawn, the looped blood vessels beneath the endometrium constrict. The overlying endometrium, which is left without an adequate blood supply, then degenerates and sloughs off with some of the blood entrapped in it. This is the menstrual flow.

Vaginal Cycle

The mucosa lining the vagina behaves fundamentally like the endometrium in its response to the ovarian hormones. Under the influence of estrogen, during the preovulative phase of follicle development, the vaginal mucosa grows thicker. Its blood supply increases but does not keep pace with its growth. Consequently, as the mucous membrane thickens, its most superficial cells are pushed further away from the source of their nutrition. As a consequence, the superficial cells undergo degenerative changes similar to those at the surface of other mucous membranes and of the skin.

These changes take the form of progressively increasing density of cell nucleus and replacement of the normal cell protoplasm (cytoplasm) by a keratohyalin protein similar to the horny substance of fingernails or hair. Thus, in scrapings from the superficial layers of the vaginal mucosa, the degree of cellular degeneration may provide a clue to the thickness of the membrane, and, inferentially, an estimate of the amount of estrogenic hormone present.

The Vaginal-Smear Technique

History of the Method. Since the discovery by Stockard and Papanicolaou (1917) and Long and Evans (1922) that vaginal smears of rodents may be used to determine the time of heat or estrus and the time of its absence or diestrus, it has seemed reasonable that the vaginal smears of other animals might also be used to mirror gonad cycles. It is obvious that the day-to-day changes during the 28- to 35-day cycle of women should be quantitatively smaller than changes in the 4- to 5-day cycles of the mouse, rat, and guinea pig. Thus, while in the rat, the pre-estrus smear may be followed by the fully cornified smear in a matter of a few hours, and by a leukocytic infiltration after ovulation, Papanicolaou (1933) found that in women the pre-estrus smear persists for some days, to be followed by an "estrus" or follicular smear which also might persist for several days. Furthermore, in women, the cornified smear did not give way to a smear consisting almost wholly of leukocytes in the postovulative phase. It seems reasonable that this is related to the fact that in women, ovulation is invariably followed by the formation of a corpus luteum which produces both estrogen and progesterone regardless of pregnancy, while in the rodent, ovulation is not followed by the production of a corpus luteum unless pregnancy occurs.

In 1933 Papanicolaou (1933) published the first detailed description of human vaginal smears. He described the characteristics of the epithelial cells, leukocytes, bacteria, and mucus, and he related the changes in appearance of these to various phases of the ovarian cycle. He showed that the variations from subject to subject are so great as to make discrimination of various phases of the cycle extremely difficult. Not even the ovulative change is necessarily clear cut in all women; it may be nearly impossible to evaluate the almost imperceptible shift from one phase to another. An attempt to determine the significance of the gradually shifting cell types was made by a number of independent investigators. Davis and Hartman (1935) attempted to correlate the smear changes in the macaque monkey with the changes which they felt in the ovary by the rectal palpation technique. They were able to determine that postovulatively there is a marked increase in the desquamation of cells from the vaginal mucosa. Dierks (1927, 1929, 1930) showed by the vaginal biopsy technique that the mucosa grows thinner postovulatively, which suggests that the desquamation observed by Davis and Hartman (1935) causes the thinning and is related to the development of a corpus luteum.

In 1935 and 1936 Papanicolaou and Shorr (1935, 1936) attempted to relate, in a quantitative fashion, changes in the vaginal smears of

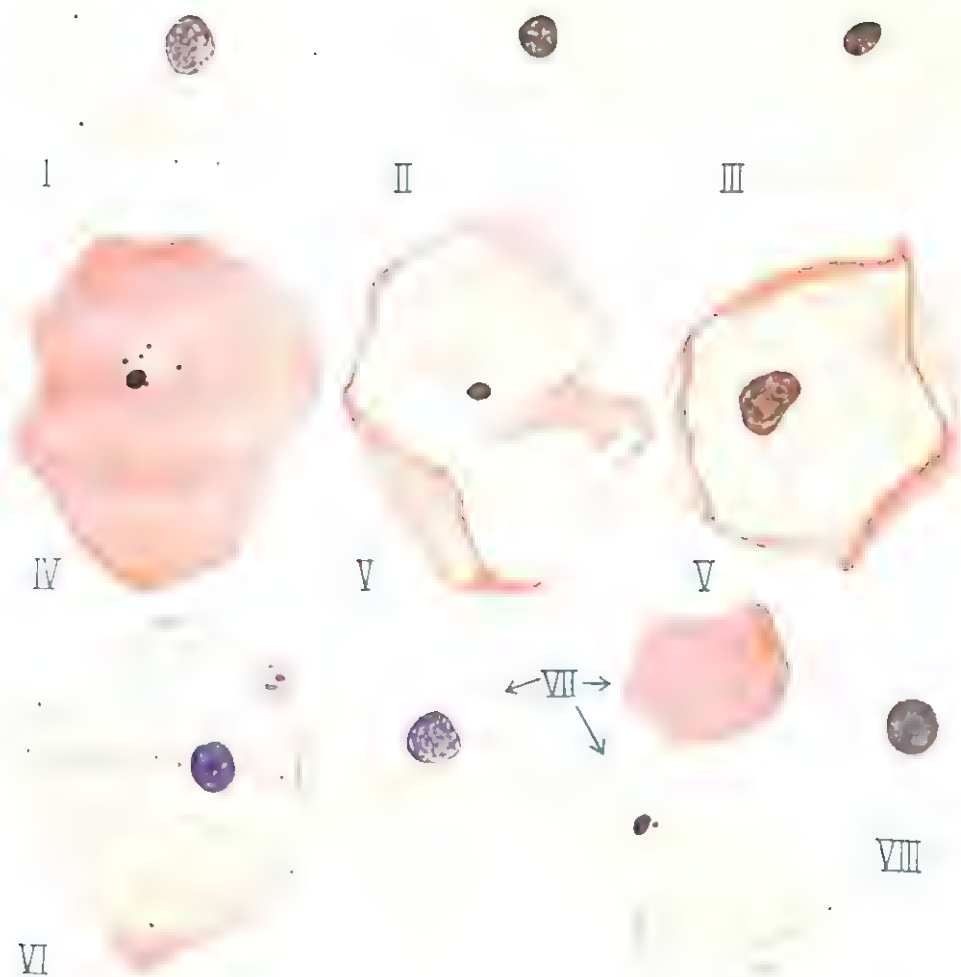


PLATE I

The Roman numerals refer to cell types. Numerals I, II, III, and IV indicate progressively increasing estrogen. Numerals V and VI indicate the combined effect of progesterone and estrogen. Numeral VII indicates hormone with drawal. Numeral VIII indicates absence of hormone.

castrate women and women in menopause to the amount and duration of estrogenic therapy. They succeeded in demonstrating the change in the smear following estrogenic therapy, but they failed to demonstrate any quantitative relation between the amount of the therapy and the extent of change in the smears. It is, of course, not unreasonable to assume that there is a wide variability in responsiveness of the end organ (the vagina) to the various amounts and kinds of estrogen employed.

In 1937 Rubenstein (1937) published a paper indicating the correlation between the vaginal smear, as taken by the Papanicolaou technique, and the basal body temperatures. It was shown that when the ovulative change in the vaginal smear was clear cut, and when no other cause for the rise of body temperature could be found, the basal body temperature nevertheless rose from 0.5 to 1° F. in this 24-hour period. The elevated temperature was then maintained for the preperiod. The elevated temperature was then maintained for the presumptive duration of function of the corpus luteum. The progressive preovulative decline in basal body temperature was related to the presumptive progressive development of a follicle and its increasing production of estrogenic hormone. Subsequently it was shown by Zuck and Duncan (1939) that the basal body-temperature curve was similarly correlated with changes in the acidity of the vaginal secretions, which in turn were also related to gonad function. Soeken (1929) demonstrated that a normal vaginal flora of Döderlein bacilli is an index of normal acidity, and that the number of these organisms bears no relation to the cycle. Gynecologists have long been cognizant of the fact that in woman the presence of leukocytes in the vaginal smear may be indicative of irritation, erosion, and infection, as well as part of the normal consequences of desquamation. On the basis of these facts it appeared that the descriptions of Papanicolaou could be simplified, at least to the extent of disregarding quantitative fluctuations in leukocytes and bacteria. The study of more than 20,000 smears of 115 women led to a critical summary and condensation of the variety of epithelial cell types described by Papanicolaou. This simplified version made it possible to relate the appearance and disappearance of the cell types to levels of the sex hormones.

It cannot be overemphasized that the description of the vaginal smear presented here is merely a condensation and summary. All the cell types described by Papanicolaou do occur with varying frequency. For purposes of clarifying evaluation, it was felt proper to discard entirely those vaginal smears in which there was evidence of irritation or of improper technique. It was also deemed proper to select for evaluation those parts of a vaginal smear in which the cells were uniformly well stained and the cytological detail clear cut.

Since for practical reasons, the original Papanicolaou wet-smear technique was altered, it may be pertinent to present in some detail the evidence indicating that dried smears can be evaluated just as effectively as those handled by the accepted wet technique. Indeed, we can demonstrate that the mode of fixation and of staining does not alter the decisive criteria of the method. Any procedure by which the cells of the vaginal smears are preserved so that they may be stained to present their cytological detail can be used successfully. It is, of course, necessary to modify Papanicolaou's classical descriptions of the cells in the various stages of the cycle, as modifications are introduced into the procedure. The original fixation and staining technique described by Papanicolaou may be accepted as ideal. In it the smears are prepared by pipetting from deep in the vagina the secretions and some of the superficial vaginal cells which are picked up in the process, then by spreading this on a clear glass slide which is dropped, while wet, into a fixative of half alcohol and half ether. After fixation, for from 30 minutes to 24 hours, the slide is hydrated by passing through graded alcohols, is stained in Ehrlich hematoxylin, and counterstained with eosin and water blue. The stained smear is then dehydrated by passage through graded alcohols, is cleared in xylol, and mounted in balsam. This procedure stains the nuclei of the cells with the hematoxylin, the cell granules with water blue, and the keratinized cytoplasm with eosin. Shorr (1940) has recently proposed a modification of the staining procedure involving the use of a variant on the Masson trichrome stain. This procedure presents a much wider variety of color change in the cells. Under certain circumstances (thick smear, slight drying, too rapid hydration), this technique will show a confusing variety of color that it is almost impossible to evaluate. If, however, on more careful examination under higher powers of the microscope the cytological detail is evaluated, it becomes apparent that there is no difference between the original Papanicolaou technique and the Shorr modification of the Masson.

Indeed, it seems reasonable that any other satisfactory combination of stain and counterstain to bring out clearly the cytological elements within the cells can be used with equal success. (See Plate I.) This shows that any modifications in technique are permissible so long as the cellular integrity and cytological detail are preserved, provided also that evaluation of the smears is based upon the firm foundation of cell cytology rather than upon the frequently fortuitous color combinations which are, after all, an artifact.

Vaginal-Smear Technique Used in This Study. In this study, a number of modifications were introduced into the original Papa-

nicolaou technique. In the first place, smears were taken with a stiff wire loop inserted into the posterior fornix of the vagina. By this modification we hoped to study the cells of the superficial vaginal layer rather than the sloughed-off debris in the vaginal secretions. And inasmuch as the posterior fornix is a site not commonly subject to irritation, we felt that smears so obtained would present a more consistently reliable mirror of events occurring in the gonads than would smears prepared with a pipette. The smears were then fixed, while wet, in half alcohol and half ether. After fixation, for at least 30 minutes, the slides were removed from the fixative, dried, and stored for shipment to Cleveland at various convenient intervals. That this process does not significantly alter the staining characteristics of the smears is evident from the fact that upon staining, when they arrived in Cleveland, their cellular integrity and cytological detail had been preserved. Plate II portrays a parallel series of smears, of which the one has been dried, the other prepared by the original wet fixation. The one outstanding difference between smears not dried and those dried is the somewhat increased affinity for eosin in the dried smears. They uniformly present a slightly more reddish hue. Apart from this, there is no serious difference. The dry smears were hydrated by passage through a graded series of alcohols, stained, dehydrated by passage through alcohols, cleared in xylol, and mounted in either balsam or, more recently, Clarite.

TABLE 5
ESTROGEN EQUIVALENTS

| VAGINAL SMEAR CELL TYPE | ESTROGEN EQUIVALENTS (ARBITRARY SCALE) | MOUSE UTERINE WEIGHTS (MG) | ESTROGEN δ =(Gamma) |
|----------------------------|--|-------------------------------|-------------------------------|
| VIII | 0 | 6.5 | 0 |
| I | 1 | 10-30 | 0.05 |
| II | 2 | 15-35 | |
| III | 3 | 20-40 | |
| IV | 4 | 25-45 | 0.15-0.55 |
| V | 4 | 20-45 | |
| VI | 2 | 15-40 | |
| VII | 1 | 6.5-25 | |

The evaluation of the smears has gradually changed in the course of these studies. At first, as is evident from our preliminary publication (Benedek, Rubenstein, 1939a, 1939b), the smears were evaluated descriptively, for example, as showing cornified cells, folding, aggregation, etc. For the report in this book all the smears were re-evaluated on the basis of the cell types described in a previous publication (Rubenstein, 1940) and summarized in Table 5. According to this evaluation, a quantitative element on the scale of five (0-4) was

introduced. The evidence indicated that cell type I, for instance, corresponds to a level of estrogen lower than that of cell types II or III. This was confirmed by comparison between daily evaluation of vaginal smears and assays of consecutive 24-hour urine specimens for estrogenic content (Rubenstein, Duncan, 1941).

Description of Cell Types. Cell type VIII (see Plate I) is a round cell with a large vesicular nucleus occupying half the cell area. It is found characteristically in the vaginal smears of children and old women, and indicates that the vaginal mucosa is very thin. By inference, therefore, gonad function is nil (estrogen = 0).

Cell type I is two to three times as large as cell type VIII, of which it is a direct descendant. Its nucleus is still moderately large and vesicular; its presence indicates a moderately thin mucosa and therefore a very minimal estrogenic hormone production of the ovary.

In cell type II, only minimal degenerative changes are seen, that is, the cytoplasm contains fewer granules and the nucleus is only a little denser than in cell type I. Its presence indicates a somewhat thicker vaginal mucosa than would cell type I, and consequently a somewhat higher estrogen production by the ovary (estrogen = 2).

Cell type III shows still further degeneration. The cytoplasm is almost entirely free of granules, and it stains characteristically for keratohyalin substance. The nucleus is denser and smaller than that in cell type II. The presence of cell type III indicates a moderately thick vaginal mucosa, and inferentially a high estrogen production by the ovary.

The peak estrogen production is indicated by the predominance of cell type IV in the vaginal smear. This is a completely cornified cell, that is, its cytoplasm is completely keratinized. Its nucleus is either extremely small and dense, fragmented, or entirely absent. This indicates that the vaginal mucosa is very thick—as thick as it ever normally grows.

When at and after ovulation the ovary produces both progesterone and estrogen, the progesterone, in effect, counteracts the growth-stimulating action of estrogen. Thus cells which have proliferated under the influence of estrogen in the preovulatory phase of the cycle are sloughed off at this time. Cells which have been sloughed off may be recognized by the wrinkling of their cytoplasm, by the folding of their edges, and by the crumpling together of masses of them. Cell type V, indicative of progesterone action on an estrogen-primed vagina, is a cornified cell with wrinkled, folded cytoplasm.

When the superficial keratinized cells of a thick vaginal mucosa slough off, the underlying cells begin to appear in the vaginal smears.

These, too, tend to show some of the characteristics of sloughing; so cell type VI has granular cytoplasm and a vesicular nucleus, but it also has the wrinkling of the cytoplasm and curling of the cell edges that are characteristic of cell type V.

Finally, when the corpus luteum regresses and all hormone production diminishes—when, that is, all stimulus to proliferation is withdrawn—the cells of the vaginal smear break down into fragments. Cell type VII, which characterizes this phase of the cycle, is fragmented, torn, or “moth-eaten.” Its presence shows very low or rapidly diminishing hormone production by the ovary. It must be emphasized that this cell type may also occur as an artifact of irritation.

Naturally, the description of the cell types is a selection of stages. Intermediate cells may always be found in smears. The experienced investigator should have no trouble, however, in distinguishing these cells for what they are. The process of proliferation is continuous and is followed by a similarly continuous process of desquamation and finally fragmentation. The assay of estrogenic hormone equivalent to the various smear cell types has already been presented.

To summarize briefly, the predominance in the vaginal smears of cell type VIII is considered indicative of zero estrogen production. The predominance of cell type IV in the vaginal smear is indicative of maximum estrogen production. Similarly, the predominance of cell type I is evaluated as estrogen = 1. Predominance of cell type II is indicative of estrogen = 2. Predominance of cell type III means estrogen = 3. When two cell types share equally in a smear, an intermediate estrogen value is assigned. In the presence of progesterone, the assay of estrogen is somewhat less accurate. In this study, a reasonable accuracy was obtained by using the following scheme of assay. The predominance of cell type V was taken to be equivalent to predominance of cell type IV (estrogen = 4). The predominance of cell type VI was assigned the value estrogen = 2. Finally, the predominance of cell type VII was assigned the value estrogen = 1. This arbitrary scheme made it possible to evaluate the smears and to infer from their changes, parallel changes in the level of production of estrogenic hormone; to evaluate the levels; and to determine whether the hormone was increasing or decreasing in quantity.

The Estimation of Progesterone. Progesterone is a hormone of the corpus luteum. One of its specific physiological functions is to cause the uterus to develop from the proliferative to the secretory phase. It stimulates secretion in the uterine glands and an increased blood supply to the uterine musculature. It also prevents uterine contractions. These uterine preparatory changes allow the ovum to

implant. Progesterone ordinarily does not function unless the preliminary proliferation growth of the uterus, under the influence of estrogen, has been completed. Inasmuch as in the normal cycle the corpus luteum produces both estrogen and progesterone, the secretory phase is not degenerative. It is a phase of continued growth as well as of increased functional activity and capacity.

In the vagina, progesterone leads to the desquamation of the mucosa and aggregation of the cells which had proliferated under the influence of estrogen. In the absence of estrogen, progesterone has no observable effects. While progesterone seems to be the dominant hormone in the sense that its effects mask the proliferation that is due to estrogen, it is also true that the very ability to recognize progesterone effects depends upon the underlying presence of estrogen effects. We were not aware of this fact when the investigation was begun. Progesterone was estimated purely on an empirical basis, since the desquamation and aggregation were seen to occur at times when there was presumed to be an actively functioning corpus luteum.

Following the demonstration by Hisaw, Greep, and Fevold (1937) on the macaque, Shorr (1940) has demonstrated the activity of progesterone in human vaginal smears. In an experiment on a castrate patient, it was possible to demonstrate, after estrogen priming, that, in as little as four hours after the injection, the action of progesterone was demonstrable in the vaginal smear. The estrogen-primed vaginal smear is an extremely sensitive indicator of progesterone.

The quantitative evaluation of progesterone, its day-by-day changes, depends upon the above-described sensitivity of the estrogen-primed vaginal mucosa. Under the influence of estrogen alone in the course of the normal cycle, cell types I-II-III-IV appear in sequence. This progression is evidence of a progressive thickening of the vaginal mucous membrane, which is a specific growth response to increasing quantities of estrogen. The appearance of cell type V, the folded, curled-up analogue of cell type IV, is evidence of the presence of progesterone. The more the progesterone produced by the developing corpus luteum, the greater is the desquamation and aggregation of cells seen in the vaginal smear. The nuclei of cell type V are initially pyknotic because cell type V is a desquamated and partially degenerated cell type IV. After several days of progesterone activity, the nuclei become progressively larger and more vesicular, for the process of desquamation reaches into deeper layers of the vaginal mucosa. Cell type VI, which is a very granular cell with a large vesicular nucleus, also finally appears in response to the continued and increasing production of progesterone during the luteal phase of the normal

cycle. The maximum response to progesterone, either in the normal cycle or in the artificially reproduced vaginal cycle in a castrate woman, consists of cell types V and VI. When the hormones are gradually withdrawn, the cells in the vaginal smear break down into fragments (cell type VII).

Thus in the initial phase of progesterone production, the quantity of progesterone can be estimated by the degree of suppression of cell types III and IV that are characteristic of the preovulative phase. Maximum progesterone output leads to a vaginal smear showing complete suppression of cell types III and IV and therefore consisting of cell types V and VI only. The diminishing function of the corpus luteum is mirrored by increasing numbers of fragmented cells. To set up a roughly quantitative scheme for the assay of progesterone, the following scale of values might be employed:

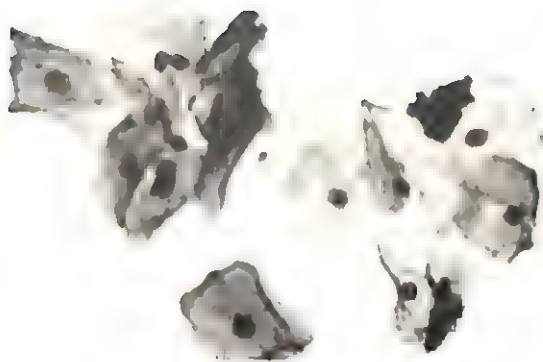
| <i>Cell Types</i> | <i>Progesterone Value</i> |
|-------------------|---------------------------|
| VII-I-II-III-IV | 0 |
| III-IV-V | 1 |
| IV-V-VI | 2 |
| V-VI | 3 |
| V-VI-VII | 2 |
| VI-VII | 1 |
| VII-I-II | 0 |

This scale of values is arbitrary and empirical, and requires verification by other comparative studies. It should not be forgotten that the scale implies considerable estrogen production during the initial part of the corpus luteum phase. It implies, furthermore, a continued estrogen effect during the entire corpus luteum phase, and an estrogen effect which roughly parallels the progesterone effect. The simple withdrawal of estrogen in the absense of progesterone also leads to desquamation of cells seen in the vaginal smear. Vaginal smears under such circumstances are distinguished by the constantly increasing proportion of fragmented cells (type VII), together with a reversal of the proliferative pattern. As the vaginal mucosa grows thinner, cell types with progressively larger nuclei and more granular cytoplasm reappear, that is, the normal progression is reversed and we have cell types IV-III-II-I.

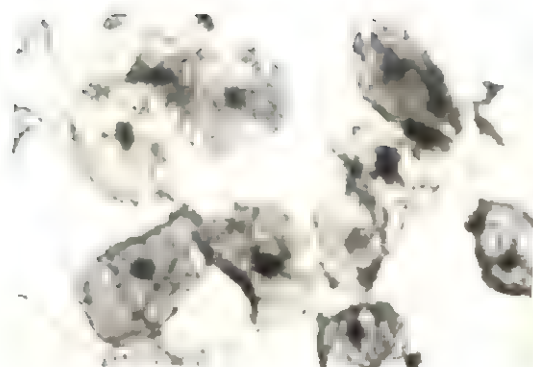
Low Hormone Level. When the vaginal smears show little evidence of proliferation in response to hormone production, the evaluation of the hormonal state is necessarily questionable and subject to considerable error. Whenever fragmented cells predominate in the vaginal smear, the diagnosis "low hormone level" was made. In the

course of this study we attempted to distinguish the minimal quantities of estrogen and of progesterone, even when fragmented cells were predominant. This seemed justified by the fact that in the total absence of ovarian hormones the vaginal smears consist of cell type VIII. Cell type VIII is characteristic of the smears in children, untreated castrates, and postmenopausal women. Consequently, when cell type VIII is absent from the vaginal smears, or nearly so, it seemed fair to assume that there were at least minimal quantities of estrogen present. Smears consisting of cell type VII, or of VII and I, were considered to be "low hormone level." Smears consisting of cell types VII-I-II were diagnosed "incipient estrogen"; smears consisting of cell types VI-VII-I were diagnosed "low hormone level, with progesterone still present." In those of our patients whose smears only infrequently showed cells indicative of a high hormone level (types III-IV-V), we attempted to describe what vestiges of the cycle remained. We did this despite our awareness of the error inherent in the attempt. It is in these "low hormone level" patients and at such "low hormone level" phases that discrepancies most frequently occurred between the predictions made on the basis of the psychoanalytic record and the diagnoses made on the basis of vaginal smears and basal body temperatures. It is fair to add a word of caution regarding the diagnosis "low hormone level." It depends primarily upon the presence and predominance of fragmented cells. Such fragmented cells are invariably present in the vaginal introitus at all times of the cycle. While strict adherence to the technique of sampling from the posterior fornix of the vagina eliminates the danger of a false diagnosis of "low hormone level," we cannot be certain that the patients who were subjects for this study did adhere strictly to the directions. We must therefore admit the possibility that some of the low hormone smears may actually have been smears from the introitus. Whenever any patient turned in a considerable number of smears containing a predominance of fragmented cells, we checked her technique, and if it was found to be faulty, the entire cycle was discarded. Nevertheless occasional lapses from technique must be admitted as a source of error, particularly during that phase of the cycle when "low hormone level" is anticipated and so would not be suspect.

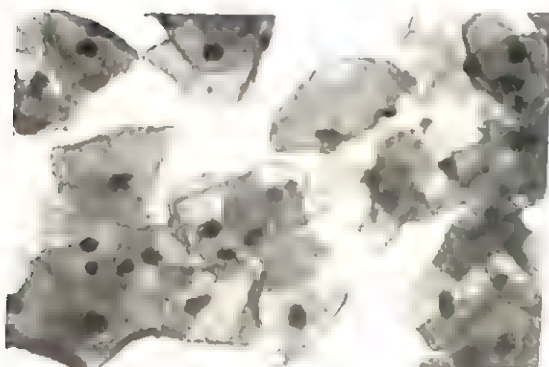
Conclusion. Apart from these sources of error, hormonal diagnosis of vaginal smears on a roughly quantitative basis seems well established. We feel secure in presenting the vaginal-smear technique as a day-by-day assay of the patients' gonad function. It is doubtless true that further refinements in technical procedure and in assay may



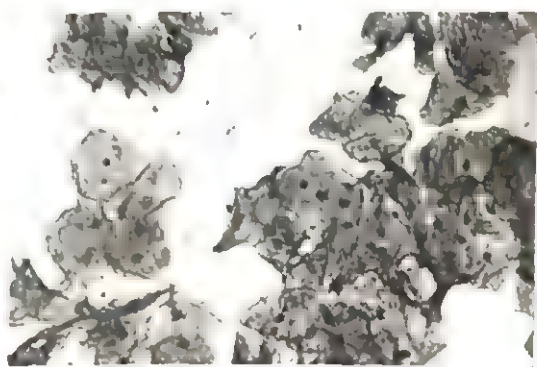
1. Not dried, preovulatory smear



2. Dried, preovulatory smear



3. Not dried, postovulatory smear



4. Dried, postovulatory smear



5. Not dried, premenstrual smear



6. Dried, premenstrual smear

enable us to make finer distinctions in the hormone fluctuation. The quantitative evaluation presented here is a first approximation.

In conclusion it might be well to reiterate that evaluation of the smears depended only upon the epithelial cell types found. Each vaginal smear was examined, and the relative frequency of the cell types was recorded in the following shorthand: the predominant type was listed first, the other types were listed in order of their frequency. No count was actually made except on a few occasions when it was desired to check the accuracy of the "general impression" of the frequency of cell types. It was only after the smears had been evaluated that the date and identifying initials on the smears were noted. These smear data were then rearranged so as to list consecutive smears of each patient and were compared with the basal body-temperature curve of the cycle or period. Unless some gross discrepancy occurred, no further study was involved. Smears presenting evidence of poor technique were so designated, and no evaluation was assigned. Apart from the early periods of "menstrual flow," "analytic vacations," and lapses of the patient in preparing smears, there were few gaps in continuity of the smear and temperature data. They were actually more complete than those recorded in this report, since we omit days on which there were no comparative psychological data.

The Basal Body-Temperature Technique

Since Van de Velde's description of changes in underarm temperatures taken at a stated time each day during the cycle, this phenomenon had received only scant attention until interest in it was revived by the review on sexual periodicity by Seward (1934). During the past ten years, the phenomenon of the temperature curve has been confirmed, summarized (Harvey, Crockett, 1932), and related to the vaginal-smear cycle (Rubenstein, 1937), to metabolic rate changes (Rubenstein, 1938), and to changes in vaginal acidity (Zuck, Duncan, 1939). It has been used as a guide in locating the fertile period in sterile women (Zuck, 1938). Its relevance to the cycle of the gonad function is thus well established.

The cycle of basal body temperature, when minor fluctuations are disregarded, provides graphic representation of the cycle of gonad function. The chief landmarks in the temperature cycle are the nadir and zenith. The former occurs at about the time of the ovulative change, while the latter occurs about a week later, presumably at the peak of luteal function. The day-to-day variations in the temperature curve do not lend themselves simply to evaluation, since body temperatures respond to the entire gamut of general metabolic functions.

There are many factors which produce a rise in temperature, for instance infection, lack of sleep, and emotional disturbance. There are, however, only a few factors, apart from an increasing level of estrogen production, which are known to depress the body temperature. Only severe exposure, which can easily be ruled out, is an effective temperature depressant. Thus the gradual and persistent decline in basal body temperature during the normal preovulative phase of the cycle may reasonably be attributed to gradually increasing levels of estrogen production by the maturing follicle in the ovary. This is confirmed by recent studies of Sherwood (1938), who has given graded doses of estrogen to castrate women so as to produce the temperature decline. The sharp rise in body temperature mentioned earlier, which occurs at the time of ovulative change, may be related to the beginning production of progesterone, which counteracts the temperature-depressing effect of the estrogen. This phenomenon has also been reproduced in castrate women. That the maintained elevation of the basal body temperature is related to persistence of the corpus luteum is supported by the fact that the basal body temperatures fail to decline premenstrually in women who have conceived. During pregnancy the basal body temperatures are maintained at a high level for the entire first trimester.

Small, irregular fluctuations in the basal body temperature do occur and are not evaluated in these studies. The cycle of basal body temperature does provide a very useful guide when smear cycles are being evaluated. The simultaneous presence of a normal temperature cycle and of a normal smear cycle provides a general mutual corroboration. It was gratifying and it served to increase confidence in the other evaluations to find consistent coincidence between the chief landmarks of the temperature cycle and the independently determined smear cycles. Furthermore, when there was a great discrepancy between the smear cycle and the temperature cycle, factors to account for this were sought. Thus the temperature data helped us to recognize periods in which the vaginal smears were unreliable because of the presence of infection, lack of sleep, persistent douching, or resistance on the part of the patient. Finally, whenever a succession of smears failed to reveal a cyclic pattern, while the normal temperature curve for the period did show a cycle, the smears of that period could be discarded. While it must be stressed that the patients were taught to take and fix their own smears carefully, with some patients there were occasional periods during which smears were persistently taken from the introitus rather than from the posterior fornix. The lack of cyclical variation in the smears could be correctly evaluated by reference to the normal temperature curve.

The use of the combined smear and temperature techniques thus provided mutual checks and enabled us to depend on their reliability.

Addendum

Since the first publication of this book, interest in vaginal smears has been generally stimulated by their use for the cytological diagnosis of cancer. Thus a number of publications describing the normal appearances of vaginal smears at various intervals of the menstrual cycle of women and monkeys have appeared (De Allende, Shorr, Hartman, 1945). Some of the more important publications are summarized in Papanicolaou, Trant, and Marchetti's (1948) monograph, *The Epithelia of Woman's Reproductive Organs*.

There has been, however, no further study of quantitative relations between ovarian hormone production and vaginal-smear appearance except for one paper by one of the authors.¹ This confirms the reasonable hypothesis that woman's vaginal epithelium responds to ovarian hormones quite as clearly as does vaginal epithelium of the mouse or rat, although the changes appear somewhat more slowly. As in rodents, timing is characteristic, and changes in appearance will be missed by infrequent or haphazard observation.

¹ Rubenstein, B. B., *The effects of the sex hormones on the vaginal smears of human castrates*.

CHAPTER 4

GENERAL ASPECTS OF THE APPLICATION OF PSYCHOANALYTIC METHOD

This investigation is the first in which the daily material obtained by psychoanalytic technique has been correlated with the results of endocrinological assays.¹ To the physiologist, the psychoanalytic method offers a new approach to the problems of sex physiology. To the psychoanalyst, this investigation demonstrates a new application of psychoanalytic technique. Explanation of the method applied in this investigation is therefore required for both the physiologist and the psychoanalyst.

Freud expressed the opinion early in *Three Contributions to the Theory of Sex* (1930) "that libido is a force of variable quantity, produced by the sex chemism which determines manifestations of sexual excitement"; and that, if we would observe all the psychosexual concomitants of the libido, we could measure the gonadal hormones. This assumption was in accord with the expectations of other biologists of his time. Since then it has become evident that sexual behavior cannot be explained simply in terms of gonadal function alone. It is safe to say, however, that the behavior of lower mammals changes in direct relationship to their instinctual drives—to hunger and to sexual need. Experiments with these animals have shown that when we know the stimulating and inhibiting factors in the environment, we can deduce the unknown factor, the intensity of the sexual drive, and thus we may infer the gonadal production. The higher we go in the hierarchy of mammals, however, the more complex the motivation of behavior becomes. The social behavior of infrahuman primates, the interrelation of the individual with the group, is not determined by the physiology of the propagative function alone.

Motivation of sexual behavior is of course more complex in man. It is a biological characteristic of human beings that sexual need—unlike hunger—does not demand direct gratification; not only can it be delayed, but it can also be substituted for, or it may be used with,

¹ Psychosomatic correlations of clinical findings with daily changes in the emotional state have been carried out in the Institute for Psychoanalysis on two research projects: cardiovascular conditions and diabetes.

other needs and demands of the personality so that many of its manifestations become complex and disguised. Therefore only in rare instances do self-observation and personal insight yield satisfactory data concerning the variations in sexual emotions. Opportunity for direct observation for scientific purposes is very limited; set experiments are not feasible. Thus only through an indirect method, through the psychoanalytic interpretation of the factors which motivate behavior, may one deduce the variations in the sexual drive.

The motivation of man's behavior, like that of animals, is determined by the interaction of two systems: the individual and his environment. Man's environment, however, exerts a deeply modifying influence upon the processes of sexual maturation of the individual. Since the sexual maturation is the axis around which the integration of the total personality takes place, we evaluate the psychosexual aspects of the sexual functions through the genetic analysis of the personality. Actually, the usual aim of the psychoanalytic procedure is to understand the psychosexual development of an individual, to unravel the determinants of his personality structure in order to free psychic energy for new adaptation and better integration. In analyzing the recorded psychoanalytic material of our study, the task was not therapeutic but investigative. Yet an understanding of the genesis of the personality is essential for the purpose of this investigation; it serves as a background for establishing the principal factors which account for the psychosexual economy of an individual. From the analysis of the genetic and economic factors, we deduce the formulation of the basic structure of the personality. This again is necessary for the purpose of our investigation, to be used as a measure against which we gauge the fluctuation in the psychosexual equilibrium, which is a labile equilibrium shifting steadily under the influences of the internal needs and the external demands.

The *ego* is the mediator between these two basic sources of stimuli, those which originate in the environment and those which originate in the self. The *id* represents the reservoir of drives, of internal stimuli. The *superego* is the psychic representative of all incorporated prohibitions of past social (environmental) experience. The behavior which is stimulated by an *id* impulse represents the end result of an intrapsychic process of many steps. Omitting all the intermediary steps and their overdeterminations, the main constituents of the process are (a) the ego's perception of the stimuli; (b) the ego's perception of the superego prohibitions and other internal defenses against discharging the stimulus; (c) the ego's perception of internal permissive and temptation factors; and (d) the ego's perception of and reactions to facilitating and inhibiting factors in the environment.

The function of the ego is to negotiate among all these dynamic influences and to discharge the psychic tension through motor activity, and/or by psychic elaborations. The interaction of all these external and internal processes we call *behavior*.

However, the ego's function is not finished by the behavior itself. The ego also perceives the phenomena of behavior and integrates it as an *experience*. Experience itself is a complex dynamic process; the upshot of this process is reflected in the mood, in the affective experience which accompanies the behavior. The "experience" to which we here refer is not the actual living-through of external behavior; rather it is the sum of sensations, feelings, and the awareness of feelings which are created by and accompany psychic processes.

In the center of our investigation is the affective experience. Our task is to determine the function of the affective experience in the actual *present* psychoeconomic equilibrium. Each affective experience can be analyzed from the point of view of the experiencing ego and also from the point of view of the affect itself. In determining the psychodynamic tendencies which motivate the affect, we may infer the physiological source which participates in the stimulation of the affect.

One often describes the psychic awareness of a need, for example, hunger or sexual need, as primary affects;² one may also designate anger and fear as primary affects, since the physiological correlates of these affects may always activate the sensation of anger or that of fear. However true this is in experimental situations, and probably also in young children, nevertheless in adults each such primary affect has to meet the requirements of intrapsychic controlling factors. How much anger an individual is aware of, how much he is able to hold in suspense without discharging it in external behavior, depends upon the total personality as well as upon environmental circumstances that bear upon him. In each instance the ego perceives not only the affect—anger—but also the "angry behavior," and it may respond to this experience according to its established intrapsychic requirements. Relief and exuberance or shame and remorse may follow the discharge of anger, and these reactions—secondary as they may be—are experienced as affects of various intensity and they may influence further behavior. *Love*, as it is manifested in sexual attraction, may be considered as the primary affect of sexual instinct. Actually, this is the most complex affect; for heterosexual love is the result of the integration of all the psychosexual developmental processes and it is motivated by several component affects. In analyzing the affective

² Glover, E., The psycho-analysis of affects. *International Journal of Psycho-Analysis*, 1939, 20, 299.

manifestations of love, we have to take into account the developmental history of the individual; we then detect the remnants of those affects which were "experienced" at a time when conflicts developed. The affective experience of what we call "heterosexual love" is, of course, as different as individuals are, and each individual may experience its variations in quick sequence. It suffices to mention the quality, goal-directedness, and integration of love as a "tension-affect," i.e., the mood of the libidinous expectation for gratification; and the quality of love, relaxed and often not object- but self-directed, after gratification is achieved.

Generally the affective response may be due to the psychic tension caused by physiological stimulation—*tension affects*—or it may be due to the release of psychic tension (or to the change in the psychic tension) which accompanies the physiological discharge; these are *discharge affects*.³ The discharge affects may be perceived as pleasures of various intensity; one may describe them as contentment, joy, happiness, exhilaration, etc. Each of these affective experiences represents complex processes of the ego. There are also situations when the discharge of sexual tension is not experienced with pleasure; in some cases, the controlling factors of the superego are mobilized instantaneously, and therefore displeasure and disappointment quickly follow the relief of discharge. In others, the anticipation of such negative affects interferes with the the positive discharge affect altogether, and a self-critical attitude—shame and guilt—is experienced. These reactions were already preformed in the personality. Such affective responses are in some instances just fleeting reactions, and in others they become deep-going impressions which may permanently influence the ego's attitude in responding to sexual need.

Each affective experience, be it as "natural" as the responses to sexual tension and sexual discharge, can be analyzed in order to determine the genetic motivation of the response (of the inclination to a specific response) and also to define the specific psychodynamic constellation which presently activated the particular response. (The latter will often lead to the conclusion that there was a change in the internal stimulation.)

Every affect can be experienced as an isolated psychic unit with which the ego has to deal. While in one moment the affect emerges like a foreign body, in the next the ego struggles to integrate it, or to repress it, in order to re-establish the psychic equilibrium. This we especially observe in the manifestations of complex affects which are only indirectly related to the physiological sexual stimulation, such

³ Glover, *op. cit.*

as envy, greed, jealousy, shame, etc. Here we hardly have space for the discussion of the structuralization of such complex affects. But almost by empathy one knows that *envy* is such an intensification of the wish to receive that it includes hostility towards the person who has what one wants; that *jealousy* is the manifestation of the fear of losing the person whom one loves and to whom one clings with hostile incorporativeness; that the feeling of *shame* has something to do with the tendency of wanting to be seen and the opposite, etc. Each such complex affect, i.e., the inclination to specific affective response, may become in the course of development a structuralized part of the personality, a character trend. Therefore each of these complex affects can be analyzed in regard to (a) the psychodynamic tendencies which constitute it, (b) its genetic motivation, and (c) its function in the total personality.

Yet there are periods when the envious person is not bothered by envy, when the jealous person does not suffer from jealousy, when the quarrelsome person appears to be amiable. Common observation shows that the same person may feel and act differently under similar environmental circumstances. The "positive heterosexual transference" of a patient toward her analyst does not have the same emotional intensity and feeling-tone every day. One day the patient expresses the longing to be loved; the next, she may demand love and gratification; but on another day she may be full of anger and revengefulness. We usually assume that the increasing tension in the patient's heterosexual need is caused simply by the frustration of the need. The jealous person may be *more* jealous because she interprets the deprivation as a personal rejection; the suspicious person will think that only she is rejected while others are loved, and many other variations. In investigating the recorded psychoanalytic material, we consider the psychoanalytic situation as a source of complex environmental influence; we account for the stimulating and inhibiting factors in it; we compare the patient's "transference reactions" with her affect-responses and with her behavior outside the analysis, in the past and in the present. After we discount all these motivating factors, we examine what remains, namely, *the individual's preparedness for a specific kind of affect-response*. In doing this we find that there are times when the jealous person's apprehension is enhanced without apparent motivating circumstances, for the reason her intrapsychic equilibrium has undergone a particular change. Perhaps she feels a stronger impulse for loving (and her anxiety is mobilized by the uncertainty of gratification); but it is also possible that her capacity to love is in a state of regression (diffusion) and therefore the hostility gains strength, motivating jealousy.

Each affect represents the result of interaction between one or more instinctual tendencies and the ego's response to them. The psychodynamic tendencies constituting the affect may be pregenital tendencies, for instance, scopophilic tendency is the affect of shame, and oral receptive tendency participates in the affect of envy; or they may be manifestations of genital tendencies such as constitute the emotion of heterosexual love. The psychodynamic tendencies which participate in constituting the affect can best be defined in terms of the primary biological tendencies. The psychodynamic tendency which is prevalent in the motivation of the affect permits conclusions in regard to the physiological source which stimulates the affect.

Observing the daily fluctuations in the affective experiences as they are revealed in the psychoanalytic material, we get the impression that the developmental conflicts which we usually refer to the unconscious carry different amounts of psychic energy at different times. Sometimes conflicts seem to be remote from consciousness, while at other times they may be near the surface, striving for discharge. This means that in combing the recorded psychoanalytic material for the affective manifestations related to sexual stimulation, we often find this expressed through the libidinal charge of the developmental conflicts. For example, the heterosexual need may be expressed by a reawakening of the Oedipal complex, or by a rivalry with the brother and by envy of his penis; the desire for pregnancy may be expressed by curiosity and anger because of the mother's pregnancy. The reawakening of the developmental conflict by the libidinal charge of the actual gonadal stimulation increases the psychic tension, but at the same time it affords a greater variety of expression of the psychic tension. We may find, especially in unmarried women, that the sexual stimulation caused by the gonadal hormones is expressed in terms of the past. This accounts for the great variations of emotional expressions which sometimes expose directly, and at other times in a disguised and indirect manner, the internal needs and desires. After a while these needs recede so that the surface of emotional life becomes relieved from a particular conflict until the same tendencies become forceful again, stirring up the same conflicts and the same emotional responses. This ebb and flow of emotions reflects the fluctuations of the physiological supply of libidinal energy.

We assume that the gonadal hormones activate the sexual drive, which in turn motivates the sexual excitation and activity of the individual. Since every impulse which has a drive toward fulfilment also has the power to call forth the defensive and controlling functions of the ego, the interpretation of the variations in the sexual drive must take into account not only the manifestations of the drives themselves

but also the ego's defenses against them. Therefore in interpreting the source of emotional fluctuations, we equate the psychic tension created by the defense reaction with the impulse which is warded off by the ego's defense. For example, when the heterosexual impulse is importunate, the ego often reacts with anxiety and hostility which dominate conscious emotions and behavior. These and other defense reactions of the ego against sexual need may be so strong that the insight of the individual does not pierce them. This explains why the usual questionnaires which depend on the insight of the subject cannot substitute for the psychoanalytic study of the sexual periodicity. This is even more true with regard to the insight into the passive component of the sexual drive. Passive receptive needs—the need for withdrawal and for concentration on oneself, the need to be loved and taken care of—seldom have the driving quality which makes them recognizable as a concomitant of the sexual drive. Often a passive desire, although manifest in conscious needs, is not allowed to express itself in behavior. For example, in a given situation the demands of the environment upon a woman may be great. She may have several demanding children or an imperious husband or boss. She might react under such conditions with increased tension, irritability, or loss of temper. In such behavior we do not immediately recognize her need for relaxation, her narcissistic concentration, her increased receptiveness. The passive qualities of the sexual drive often become manifest only as they conflict with ego-drives and with the environment. This is especially true with regard to the need for pregnancy. Prior to our present knowledge of female sexuality, we were not aware that there are periods in which active heterosexual desire alternates with and/or is masked by desire for motherhood. Questionnaires do not ask about the need for pregnancy or about changes in feelings of motherliness. These tendencies are so often in conflict with the demands of the ego in our culture that we overlook the fact that they are rooted in biology.

Psychoanalysis, as it is applied in the therapeutic process, is a method which elucidates the motives of behavior in all their complexity. It can be likened to an experiment, set up in order to induce repetitions of characteristic emotional reactions which enable us to minutely investigate the intricate interrelations of factors determining behavior. For this investigation we have tried to capture the actual process of psychoanalytic experience by studying the case records without the pressing necessities of the therapeutic situation. The living process of psychoanalytic experience cannot be reproduced completely in records which mainly preserve the verbal expressions of the patient and some of the therapist. In spite of this shortcoming,

however, a good record of a psychoanalysis conveys enough of the patient's moods, feelings, spontaneous verbalizations, and rhythm of expression to enable psychoanalysts to interpret the material for specific investigative purposes.

The record usually contains the patient's report of personal experience and her complaints; it describes some of her behavior in daily life outside the analytic session. It also gives the analyst's observations during the session. This "conscious material" is enlarged by the patient's realization of the motives of her behavior and/or by her rationalizations. These usually afford information about current environmental occurrences. It would be erroneous to assume that psychoanalysis is a closed experiment, isolated from the individual's actual life. On the contrary, psychoanalysis itself becomes a part of the environment; it colors the actions and emotional manifestations of the patient's everyday life, just as the total experience of the individual colors her responses to the psychoanalytic situation. The emotional response of the patient to the analyst is the chief dynamic agent of the process, since it creates a situation in which emotions develop under quasi-controlled and carefully observed conditions. *Transference* is the term used to describe the repetitions of emotional reactions which occur during the analytic procedure in relation to the therapist. We search for its manifestations in the record in order to evaluate the changes in the motivations which induce emotional reactions. The transference may be expressed overtly or it may be expressed in disguised form and may then have to be revealed by interpretation.

Free associations afford access to the psychic motivations which are not voluntarily expressed or are not known to the patient. Free associations carry the patient away from rational thinking to the periphery of consciousness where the censoring, controlling function of his watchful intellect is relaxed. Free associations enable the investigator, even through the seemingly dead pages of the record, to sense the emotional rhythm, the change of mood, and the tempo of discharging energy more genuinely than would any description of a situation.

Dreams and fantasies constitute the most important part of the psychoanalytic record because they unmask unconscious, dynamic forces and the ego's reaction to them in more detail than conscious insight can reveal. We consider dreams the "objective material" of psychoanalysis. This may sound paradoxical, for dreams are ordinarily thought of as being fantastic and bizarre psychic products. Since the beginning of the psychoanalytic investigation of dreams, it has been recognized that in spite of the great diversity of its elaborations, dreaming is a process that is set in motion by physiological im-

pulses; that in analyzing dreams, we recognize the instinctual impulse as well as the intrapsychic processes which lead from the original dream impulse to the manifest dream. The development of dream analysis as a valid, scientific method of biological research is a great task which requires the cooperative effort of many analysts. French's papers [1937 (2), 1939] and his as yet unpublished research on dreams are an important step in this direction and have undoubtedly influenced this work.

Sleep is a physiological condition induced by the withdrawal of interest (of libidinal cathexis) from the outer world (Freud, 1933). The "Nirvana-like" condition of sleep can be attributed only to some phases of deep sleep during which internal stimuli are probably not perceived, and the need to sleep, the need for biological restoration, may block perception altogether, even that of pain. However, the depth of sleep varies. If sleep becomes superficial (either because the fatigue is diminished or because of internal tensions the Nirvana-like condition gradually or suddenly changes), the nervous system takes over its function and perceives the stimuli which arise from without and/or within the body. Whatever the origin and the goal of the stimuli may be, they represent the opposite of the physiological tendency to continue sleeping. The psychic tension which results from the conflict between the wish to sleep and from the sleep-disturbing stimulus represents the impulse for dreaming. The primary function of dreaming is the preservation of sleep.

Rank (1912) and others have shown in a number of studies that certain dreams, provoked by organic stimuli, demonstrate the conflict between the need for sleep and the demands of the organic impulse; stimuli from digestive, urinary, and sexual organs instigate dreams. The organic impulse may be suppressed, minimized, or exaggerated during the process of dreaming for the purpose of preserving sleep. Sometimes this is successful; that is, the effort demanded by the dream elaboration succeeds in suppressing the physiological need, and sleep can therefore continue. At other times the physiological impulse is stronger or it even increases during the process of dreaming so that the sleeper is awakened. There is no doubt of the somatic origin of these dreams.

The great majority of dreams, however, originate from impulses not strong enough to arouse a perceptible physiological reaction. Instead, the psychic representations of the physiological stimulus are aroused: wishes, desires, longings, ambitions are psychic representations of the physiological impulse. These meet the wishes, demands, and prohibitions of other areas of the ego and superego; between these opposing tendencies a conflict arises which increases the psychic

tension. The psychic tension, however, must remain low in order to permit restful sleep. If the psychic tension reaches a degree which disturbs sleep (but still does not awaken the sleeper), dreaming is stimulated. *Dream-work* is a process of elaborating all the stimuli into a unified whole. Its aim is to decrease intrapsychic tension in order to guard sleep.⁴ Dream interpretation is an attempt to unravel the motives behind the dream-work. The interpretation may be a purely "clinical" one, pointing out only those conflicts which are important in the current psychoanalytic situation. Analysis of the dream sometimes aims at completeness and then its goal is the ambitious one of analyzing all the motives, all the dynamic and economic factors which constitute the dream-work.

In this investigation we do not strive for complete analysis of the dreams. Motives originating in ego and superego impulses are taken into consideration only in so far as necessary to recognize the physiological impulses which create the incentive for dreaming. In this study, in other words, our interpretation of dreams is mainly physiological.

In seeking for the id impulse, we use all the available material of the record; we utilize the free associations of the patient, her further elaborations on the dream, her account of the "day-remnants" which might have given impulse to some parts of the dream, etc. All this material may carry with it the "feeling-tone" of the experiencing dream ego, and thus it may reflect the affective state during dreaming, and even more, the affective response of the waking personality to the impulses of the dream. Besides the associative responses to the dream, we rely upon the study of the *structure of the dream*. The dream, as it is verbalized by the patient (the manifest dream-content), is used as "an index of the quantitative balance between repressed and repressing forces" (French, 1937). A quantitative evaluation of the psychic forces can be, naturally, only relative; it is derived by comparisons and not by measurements. In interpreting a particular dream, in this sense, we use as comparison the previous dreams of the patient, her individual usage of dream symbolism, her response to the affective elements in the dream, etc. All this, again, can be gauged only through a concept of the personality structure of the patient which is arrived at through the knowledge of her developmental his-

⁴ Bertram Lewin, in a paper entitled "Sleep, the Mouth, and the Dream Screen" (*Psychoanalytic Quarterly*, 1946, 15, 419) conceives of this sleep-preserving function of dreaming as the "dream screen" upon which is projected, in a visual sense, the dream impulse and its elaboration through the "primary and secondary processes." While we are not prepared to follow the conclusions of Lewin, the concept of "dream screen" appears to us very useful. In these investigations it becomes evident that the dreaming ego sifts the stimuli as well as the unconscious and preconscious symbols, words, and other psychic representation, in order to elaborate the perceived stimuli and to discharge it through a mental product, the dream.

tory, through her past and present experiences. Taking all this into consideration, one may be surprised that among the many hundred dreams investigated for this study, we have found very few (actually only six) which we were unable to relate to the physiological impulse, i.e., to the gonadal function of the dreamer. In other words, we have felt on safe ground in our predictions if we base them on dream interpretation.

The dependability of the dream interpretations in this study can be explained simply by the fact that the questions we asked ourselves were always the same. However complex the elaboration might have been, the interpretation had to answer the following questions: What manifestations of the sexual drive can be recognized in the dream? How did the ego of the dreamer (censor) respond to the libidinal cathexis? What was the process of the solution of the conflict in the dream, and what motivated the steps of the dream solution? The answers to these questions may lead to various considerations, but in this study they were related to the variations of the sexual drive, which then served as a basis for prediction of the quantitative and qualitative changes in gonadal hormone production.

If the physiological stimulus is frankly expressed in the manifest content of the dream, or even if the dream ends with physiological gratification (orgasm in dream), we have little doubt that the dream is partly physiological in origin. Since orgasmic discharge may drain sexual excitation originating from various sources, only a more detailed analysis of the dream may qualify the nature of the physiological impulse. An interesting illustration of this is the following dream of Case XII, April 21.

I awoke with a feeling that I had just had an orgasm, in a dream. In the dream, I can only remember that I went to visit a girl friend. She wasn't the same as she really is. She had a baby. She looked disheveled. She was lying on the bed, or sitting on the edge. She looked messy, and someone brought in her baby. I observed her as she looked changed. She was happier, perhaps because of someone bringing in her baby. While I was observing her, I had an orgasm.

On the manifest level, this dream shows the patient's pleasure in observing a young mother who, although still "messy and disheveled" (from delivery?), is happy in looking at her infant. We assume that the girl friend in the dream is a projection of the patient's wish to have a baby. The emotion which the dream ego experiences is one of happiness and excitement, strong enough to bring about an orgasm. Yet happiness over a child, or childbirth, usually does not lead to an orgasm. What quality or tendency of the sexual drive may account

for that feeling? The *eliminative tendency* is the one and possession of the infant (motherliness) is the other psychodynamic factor which motivate the manifest emotion of this dream. Eliminative tendency, the basic factor in the orgasm of the male, occurs in women in the premenstrual phase of the cycle, usually when *progesterone* production is declining. The sense of motherliness in the dream, and the tension of the eliminative need, indicate declining progesterone in a cycle in which progesterone production was high.

The stimulation of heterosexual tendency may motivate dreams of varying emotional intensity; sometimes the excitation may lead to an orgasm; at other times the dream elaboration suffices to discharge the impulse, as in the following examples:

1. *Case I, January 18*: Mike came and paid me a lot of attention. He embraced me, and fondled me a great deal, and I responded.

2. *Case II, February 14*: I hate to discuss this dream. Oh dear . . . the dream is that I was lying in bed alone. It seemed Mr. H. came in. He took off his suit. He had on shorts. He reminded me that he had a date with me. I was afraid to go ahead, although I wanted to. I found my head between his legs. Then I pulled myself away. I was afraid for an unknown reason. I realized I was afraid because I was in the house. I decided that before I had an affair I was going to you (male analyst). I called you on the phone. You were very general in your answers. Pretty soon Mrs. N. (mother-substitute) came in and said she would not wait any longer, she wanted to use the telephone. I went to her office to apologize.

In this dream the sexual impulse appears plainly, and the dreamer begins to act it out, but then reacts to it as though it were dangerous. Her sexual activity is inhibited at first by fear; she turns to the analyst (father) for permission or prohibition. But even this talk with the analyst is a form of gratification of a sexual impulse so that the sexual wish is again inhibited—and this time by a mother-figure. In the dream, the mother is angry at her, and the patient is submissive and apologetic; that is, she conciliates her superego.

Heterosexual desire appears in various symbolic disguises.

Case XI, February 11: (a) A house—I was living in it, but I happened to be outside. I looked up and saw the chimney burning. (b) I had something, it was supposed to be a bicycle, but it was not, because the handle came off. It was like a scooter, but I thought it was a bicycle. I squatted on it, and it went fast, but I controlled it. Father was there, somewhere.

In this dream (a), the sexual stimulation is expressed as a visual projection; the dreamer is looking at the symbol: the burning chimney.

The second dream (*b*) seems to express a stronger sexual stimulus because it awakens a desire for sexual activity; the sexual activity is expressed in motor action which may be interpreted as symbolic masturbation.⁵ The feeling-tone of heterosexuality in the dream is expressed by the awareness of the father.

All the dreams cited express sexual desire and the need for genital gratification. Yet it is evident that these three examples are dreams of three different persons, each at a different level of sexual maturity. Case I "responds" to the activity of a man; Case II finds herself active sexually, but becomes inhibited by fear of the parental figures. In the third example (Case XI), the dream expresses masturbatory activity related to the father, thus revealing the infantile character of this patient's sexuality.

These examples also illustrate one practical principle of our interpretations and predictions, namely, that in different persons we have to reckon with quite different emotional reactions to sexual energy. Thus if Case I or Case II were to have a dream of the same dynamic quality as the dream quoted from Case XI, we would interpret it as a diminishing integration of ego and sexual aspirations, and therefore we would relate it to a decline in hormone production. This dream, however, is an expression of sexual tendencies, characteristic for this patient, even though the hormone production is high. Thus it reveals an arrestation of her psychosexual maturation. Since we concentrate upon the dreams of one individual at a time, we are more easily able to recognize the qualitative and quantitative changes in the sexual energy. We assume that the undisguised expression of the sexual impulse in the manifest dream ordinarily corresponds to a higher level of sexual tension than is found behind those dreams in which the sexual impulse is concealed or appears without emotion.

The following are some examples of dreams which do not express sexuality in the manifest dream, but rather a defense against it.

Case I, December 18: My nose, or someone's nose, was smashed—or perhaps a skull. Immediately on awakening I thought of a face all swathed in bandages. It was our coal man.

This dream appears in two parts; one was in sleep and the other on awakening, as if she were interpreting her dream-thought. "My nose is smashed"—i.e., I am hurt; "Not I am hurt, the man is hurt;

⁵ We do not try to prove the correctness of the symbol interpretation here; it would burden this presentation with too much detail. The meaning of a symbol may become conscious to a person by associations or by the feeling-tone it evokes. Since many symbols are in general use, their interpretation is readily accepted. Some symbols, known as universal symbols, may have the same meaning for everyone; others are characteristic for different individuals. The psychoanalyst must understand the individual use of symbols in each case.

it is the coal man." If I had a sexual affair with a robust man, like a coal man, *I would be hurt*. The patient's association, as well as the analysis of the dream structure, indicates the heterosexual tendency behind the active and passive aggressive impulses.

The following dream shows anxiety as the only emotional reaction to the sexual impulse.

Case IX, December 5: It was a crazy dream. It was a terrible nightmare. I remember only this: there were three men chasing me; they tried to capture me or kill me. I awoke with great anxiety.

From the high degree of emotional tension in this dream, we conclude that there is an intense physiological impulse.

Thus we evaluate the physiological impulse by estimating the intensity of the emotional affect-manifestations conscious to the dreaming ego. A further procedure in evaluating the intensity of the physiological impulse is the analysis of the shifts in psychic energy during the process of dreaming. In analyzing the steps by which the dream drains off emotional tension, as well as in interpreting the hallucinatory gratifications afforded by the dream, we can give a precise account of the physiological stimuli.

We assume that the physiological need is stronger and the corresponding hormone function higher when the gratification afforded by the dream is of a genital character. This is true of the dreams of Case I and Case II, presented above. A physiological impulse of a genital nature, however, can initiate a dream in which the ego's defense against the sexual impulse diverts the aim of the dream to another form of gratification. That the genital impulse may end in oral gratification can be seen from the following example:

Case VII, January 14: I pictured the hallway in the apartment in which I live as being lonely, narrow, and dark. I was in the bathroom near the door, trying to get some candy out of the pocket of my robe, which was hung on a hook. It seemed that Gordon (my boy friend) was in another room and I was afraid he would discover my trying to get the candy. The candy seemed to be chocolate drops wrapped in tin foil. Then I was back in my own room. I heard a rattling noise, and this was Gordon trying to get out of the room; but the door was locked.

We set aside the details of the dream and formulate only the psychodynamic tendencies expressed in the manifest content: (1) to be alone is lonely and disquieting; (2) eating is a (substitute) autoerotic gratification, a consolation in lonesomeness; (3) the wish to be with the boy friend—heterosexual desire—is obvious, yet the boy friend cannot reach the dreamer. The boy friend represents the genital

desire which would make her oral wishes superfluous. The inhibition of her sexual tendency is expressed in the physical separation from the boy friend. While the dreamer feels guilty because of the repressive oral gratification, the prohibition of the genital wish leaves her in suspense without gratification. Thus the feeling-tone of the dream is that of *regret*. In evaluating such a dream, we take into account both the heterosexual and the oral receptive tendency. Evidently the heterosexual desire cannot overcome either the inhibition or the autoerotic tendencies in which eating sweets becomes gratifying.

In other dreams, anal, urethral, or other forms of gratification can be substituted for genital tendency and its gratification.

Up to this point the dreams cited have dealt only with the active tendency of the sexual drive which we correlate with estrogen production. A few examples should illustrate the dreams motivated by the passive tendencies of the sexual drive.

Case VIII, December 21: Swimming around in a red sea. Part of the water was not red, part of the water was red. I could swim best in the part which was red.

Associations confirmed the tendency which is expressed symbolically in the dream: the wish to withdraw. The "swimming in a red sea" was accompanied in this dream by a pleasant sensation which can be interpreted as a symbolic expression for being in the womb. The symbolism of the following dream, of the same patient, may serve as confirmation.

Case VIII, August 28: I was living in an apartment house by a river, and it was built in such a way that the apartment came out over the water just above the third floor. The deeper part of the building was under the water. I tried to walk in the river. It was not deep but dirty, and filled up with papers and things. I was talking with my mother. She told me I was married and lived on the third floor of the apartment. I had five children and lost them. I told her I did not remember all that. She told me that therefore I was getting analyzed.

In both these dreams the water symbolism is in the foreground. Dwelling in a house built partly under the water may be one of the classic symbols of the womb and being in the womb. The female sex organs represent "dirty" organs for this patient. This relates to menstruation as well as to the eliminative tendency of sexuality; infantile sexuality, i.e., masturbation, is like wading in dirty water. Then the dream seems to be lifted from this vague, symbolic level of regressive (eliminative) sexual tendency to a more definite expression of adult sexuality and of having children. (The case history of this patient tells how she reacted to the birth of her five siblings.) In the dream,

her mother informs her (i.e., gives her permission) that she is born, lives above the water—she is married; i.e., she can have children. Yet with regret and sadness the dreamer expresses the sense of loss because she “forgot” that “she had children”; after the hostility toward her siblings (children) is expressed, the conflict finds resolution in the hope that psychoanalysis will help her to have children. In this dream we evaluate: the tendency to withdraw and be the child, the competition with the mother for children, the conflicting attitude toward them.

The following dream is similar in structure.

Case IX, May 6: I seem to remember being on a boat in the water; it was on one of those little boats. The water was all around me; I can't remember anything else. Oh, here's another part of the dream: I was sitting in the car, I was going to drive it. My sister-in-law and her baby were in the back. As I was going to pull away, my cousin and his wife and his baby were sitting in a car, and in the back was a trailer. He had a gun pointed at him.

The first part of the dream shows the same symbolism as that of the two previous dreams. The patient interrupts the dream, saying she cannot remember it, only to start again. The problem of pregnancy is again expressed symbolically; the car serves as a symbol for the womb. From the case history of this patient we know that she had had a deep desire to have a child by her brother. Thus, in the dream she envies the sister-in-law who has the brother's baby. The next dream-thought is the repetition of the same conflict, now projected to a cousin. The cousin, who has a gun directed at his face, is a substitute for one of her brothers who shot himself. Her wish to have a baby is again expressed by the baby with its parents.

We find that those dreams which express a wish for pregnancy or an identification with the mother, directly or symbolically, correspond with the progesterone phase of the cycle. Progesterone production is also represented in dreams when the wish to return to the womb is expressed.

It is a remarkable phenomenon that the psychic apparatus registers the physiological changes of an organ in dreams. We recall that long ago Freud (1924) pointed out that inflammatory or other pathological organic processes may be perceived unconsciously, and that they appear in dreams before the symptoms are sufficiently acute to attract attention. Such dreams impress us as prophetic. Ferenczi's concept of “pathoneurosis” (1926) offered the first hypothetical explanation of this phenomenon. He stated that if an organ is diseased or injured, “. . . it is not improbable that not only the white blood corpuscles

collect together by 'chemotaxis' . . . in order to develop their reparatory functions but also that a greater amount of libido . . . is concentrated there." The organ highly charged with libidinous energy activates the psychic awareness of the organ even earlier in sleep than it does in the waking state. This hypothesis is supported by well-known biological facts. The growing cell, as well as the growing organ, has a great charge of energy, since growth itself is accompanied by a large energy production. This energy, which is registered by the psychic apparatus, may activate pleasurable or painful feelings. The female genitals go through a period of physiological growth during the ovulative and postovulative phases. The increased physiological activity of the organs, although not conscious, may be perceptible to the sleeping individual. Awareness of the womb, for example, expresses itself in dreams in a symbolic manner. The symbol may signify the organ in which the physiological excitation is taking place. This has been shown in a paper by French (1937) who concludes that there is a physiological excitation, perceptible to the mental apparatus, in those organs which are even symbolically represented in the dream.

On the basis of dreams it is more difficult to estimate the level of progesterone than the level of estrogen production. In general, a genital desire for impregnation and pregnancy indicates a high level of hormone production. If the desire is regressive, as the wish to be a child or to return to the womb, we assume low hormone production. These statements, however, have validity only for the quantitative evaluation of dreams of the same individual over a long period of time. We quote only one example. The following dream came at the time of an incipient and unexpected pregnancy and when the patient was preoccupied with the possibility of pregnancy:

I dreamed about a boat. The boat was deep in the water like a submarine, but it was not a submarine. The boat had a glass roof so that one could look out. I was alone in the boat, the water washed over the boat in waves, over and over again. I was not able to see what was happening, I could not look out. I did not know where I was. The water was heavy and sluggish. The color of it was deeper than surface water usually is. I did not try desperately to get out of the boat but it was an uncomfortable feeling, and I awoke. It was not an accident; it was just a place where I was.

This is a vague dream; the symbolism is similar to that in the dreams of Cases VIII and IX on pages 66 and 67. However, the dreams of Cases VIII and IX appear to reflect the relationship to pregnancy more openly than does this last dream. The case histories of Cases VIII and IX show that both these women are quite infantile

personalities, and neither of them had ever been pregnant. The last dream is produced by a woman who is the mother of three children, and she was pregnant when she had this dream. The dream expresses her wondering about her condition; her ambivalence in orienting herself in regard to the pregnancy; the conflict is expressed in a sense of unreality; she awakens to *accept* the reality of her condition (the place where she was). In actual pregnancy there is high progesterone production. While this dream reveals progesterone activity, on the basis of its analysis alone we could not predict such a high level of progesterone production as pregnancy implies.⁶

This study has shown that dream analysis can give us reliable information for gauging the quality of the sexual impulse, its direction, and its goal. By comparing numerous dreams of one individual, we can estimate the quantitative changes in the physiological impulse. This indicates that by using the technique of dream analysis in a consistent manner we can predict and analyze physiological changes as subtle and gradual as the variations of the gonadal hormone cycle.⁷

We arrive at the correlation with the quantitative hormone production by (1) psychoanalytic evaluation of the dream solution and (2) analysis of the manifest emotional content of the dream. We find that dreams expressing a sexual conflict or its solution on the genital level correspond to a greater intensity of physiological impulse, and therefore to a higher level of hormone production, than do dreams which express sexual conflict or its solution in a pregenital form. The emotional content of the dream may be comprised in a wish. The wish may be so intensified as to appear an urgent need; it may diminish in intensity and fade away; it may find a substitute in some other form or it may be renounced altogether. In this study the "feeling-tone" of the dream was found to be a reliable measure.

Psychoanalysis has concentrated mainly upon the dynamic forces which create emotion but has paid little attention to the phenomenology of the emotional state itself. Only recently has psychoanalytic literature begun to emphasize phenomenological aspects as a very important index of how the mental apparatus deals with psychic energy. In our investigation, in which quantitative changes are so important,

⁶ Here we are reminded again of Bertram Lewin's concept of "dream screen" (*op. cit.*, footnote, p. 61). The "progesterone dreams" seem to be characterized by a visual quality of the symbol projections. It seems that the cathexis of the active organ (uterus) produces a stimulus which mobilizes the symbol representation of the organ with a cathexis strong enough to be discharged by the visual-like projection of the primary process.

⁷ The fact that we are able to predict physiological changes from dreams does not appear to us so remarkable as the fact that this method has hardly been used for psychosomatic research. The main reason for this is that one usually looks upon the dream as a psychic product representing the conflicting reactions of the ego; even if one relates the dream to the physiological impulse, one usually deals with the latter mainly as a *source of conflict* (as the villain which has to be fought) and not as a phenomenon which can be described better through the finesse of psychic reactions than through any other medium.

we pay particularly close attention to the phenomenological variations of the emotions which reflect the intensity of the drive and to the reactions of the ego to these variations. If the drives are not too intense, the wishes aroused may readily be disposed of. When ungratified, a wish may become an urge or it may create an emotional situation of suspense from which the mental apparatus seeks to find release. There are individual differences in reaction to this state of suspense. Some people can hardly bear it; their psychic tension increases to the point of restlessness, hostility, or excitation, thus leading them to seek immediate gratification which may take the form of a frank outburst of anger or of self-pity. Other individuals are better able to endure a state of suspense. Their emotional tension is not so great and can often be described as a state of "longing"—a feeling of passive desire, a state of waiting for someone or something to gratify it. Thus we find that longing corresponds to a passive direction of the drives while we correlate desire or urge with an active tendency.

Another typical response to emotional suspense is fantasy. Fantasy creates an illusion of gratification and it may decrease the emotional tension just as a dream does. Fantasies may be analyzed and interpreted in the same manner as dreams. Persons whose sexual development has remained on an infantile level indulge in fantasy a great deal (Case XI). Often this is their only form of sexual gratification. On the other hand, fantasy may increase sexual tension by arousing desire and expectation and thus create an artificial stimulation. It is only through close investigation, however, that one can detect whether the tension corresponds to a high or low hormone level.

There are innumerable variations in the phenomenological manifestations of the drives. It is beyond the scope of this work to describe them. We wish to emphasize that the terms "wish," "need," "urge," "impulse" are used to denote the intensity of the drive and its active direction; while by the terms "suspense," "waiting," "apprehension," "anxiety," "hostility" we indicate the manner in which the ego deals with the drive.

In investigating the fluctuations in intensity of sexual drive, we examine all the psychoanalytic material (including the dreams and fantasies) for signs of increase and decrease of libidinous needs in the waking state. When sexual drive is overtly expressed in actions, emotions, or fantasies, we conclude that there has been a physiological stimulation. We arrive at the same conclusion by analyzing the reaction formations and the defenses in the overt behavior or in psychic elaborations. If an overt expression of the sexual drive is not present, the degree of physiological stimulation becomes difficult to estimate. The reason for this is evident if we compare sexual desire with hunger.

When hunger is satisfied, all its psychosomatic manifestations disappear but the production of digestive enzymes increases. When sexual appetite has been satisfied, the gonadal hormone production normally increases without calling forth overt psychologic manifestations of sexual need. The release of sexual tension is usually accompanied by a feeling of well-being and relaxation.⁸ This feeling, however, does not produce psychic reactions so distinct that we can estimate the level of hormone production by it. Another reason why sexual desire may not manifest itself in behavior is that physiological stimulation has been blocked or it has been discharged in other activities. Other factors may be responsible for the relative lack of physiological stimulation, such as constitutional differences in hormone production, actual frustration, depressing events, or physical illness. Or it may be that the psychosexual development of the individual is such that it interferes with even disguised expression of sexual desire.

The day-by-day fluctuations of the emotions during the sexual cycle reveal the changes in the dynamics of the sexual drive as well as the variations in the ego's responses to the drive. The integrative function of the ego is complex. It works slowly and unobtrusively. We know very little about it so long as it accomplishes its task. Its capacity to handle external and internal stimuli simultaneously varies in the individual during the sexual cycle. The ego fulfils its integrative function more adequately during the first phase of the cycle, when the sexual drive is under the control of estrogen production. During the postovulative phase, when the ego is charged with passive, receptive, libidinous tendencies, its activity may be diminished. Increased narcissism may cause a great, even a painful, sensitivity toward stimuli of the outer world, yet the ego's integrative capacity does not noticeably diminish. It is common knowledge, however, that during the premenstrual phase of the cycle the ego often fails to control emotional reactions. Suspense changes to urgent tension and longing changes to depression. A level of hormone production which would not be disturbing at other times may cause a strong emotional reaction during the premenstrual phase. This necessitates a qualification in the estimation of hormone production. The emotional tension and the variations of its affective expressions serve as a good indicator of the corresponding physiological stimuli in every other phase. But during the premenstrual phase we cannot rely upon this parallelism between emotional and hormonal state.

⁸ The other result of such physiological stimulation may be a quick rise of sexual appetite again. In such cases, persons develop a rhythm which permits sexual gratification before the desire calls for overt psychic manifestations.

Psychogenic symptoms are also included in the wealth of material we analyze. They are the result of conflicting psychodynamic tendencies and represent a solution of the conflict. If the underlying psychodynamic motivation can be analyzed, we make use of the symptom to determine the phase of the gonadal cycle. For example, it is well known that the psychodynamic motivation behind street phobia is a fear of sexual attack. This fear is a reaction to heterosexual desire which is not recognized by the patient; the fear increases as the heterosexual need increases, therefore it is correlated with estrogen production. Another example is a psychogenic nausea, a symptom developed as a defense against oral receptive tendencies. We may find this symptom to be correlated with progesterone function. A third example is abdominal distention which, although like nausea, may be activated by purely digestive dysfunction, is often an expression of a retentive tendency and expresses an unconscious desire for pregnancy. For this reason we feel justified in most instances in correlating it with progesterone production. There are other symptoms whose psychodynamic motivations are not well understood—pruritis and urticaria, for example. It is quite generally known, however, that these symptoms can also be correlated with the hormone cycle. (A study of several other symptoms in relation to the hormone cycle is to be the topic of further investigation.)

There may be objection to prediction of the phase of the gonadal cycle on the basis of psychogenic symptoms since they do not necessarily show periodicity. This is true in some conditions and for some symptoms—for example, in hysterical paresis. But many symptoms do recur or show periodic exacerbations. Persons whose dominant symptom is always present (Case IX) show fluctuations in the intensity of the emotions accompanying the symptom. These fluctuations are related to the decreased or increased physiological charge of the psychodynamic tendency.

Summary

We have discussed the range of psychological material accessible for observation during psychoanalytic procedure. Recorded psychoanalytic material permits the investigation of various problems apart from the actual psychoanalytic situation and its therapeutic aim.

We have shown how the underlying motives of the affects, their fluctuations, their intensity, and their expressions may be determined. Although emotions are influenced by environmental factors, they are never altogether independent of the affective responsiveness of the individual, which is motivated by psychic and physiological factors. All

psychic products represent a result of all these factors. After allowing for environmental influences, we can then establish those motives which originate in or are activated by the internal physiological stimuli. One of these stimuli is the periodic change in the gonadal hormone production.

We have discussed the technique of dream interpretation and have demonstrated that dreams, as objective material, enable the psychoanalyst to see the motives in all their complexity, to discover their origin, and thus to evaluate them. Similarly, fantasies and psychosomatic symptoms are used to uncover the psychodynamic tendencies. In the usual psychoanalytic procedure we are concerned with whether these tendencies are gratified or repressed, and if repressed, whether because of internal or external inhibiting factors. In this investigation the emotions are treated as reactions to internal stimuli. We assume that the changes in emotions are referable to the internal stimuli, so we relate them to the gonadal hormone production. On the basis of the psychodynamic tendencies which motivate the variations in the emotions, we predict the variations of the hormone production.

CHAPTER 5

INTERPRETATION AND PREDICTION

Before discussing the method of interpretation of psychoanalytic material for the purpose of prediction of the hormonal state, we present in summarized form the chief concepts on which our interpretations were based, namely, the psychoanalytic theory of the *sexual drive*.

The psychosexual growth of man is a complex process. The long period during which he is biologically and sociologically dependent is responsible for the intricacies of his development. After sexual maturity is reached, psychological and social obstacles to adequate gratification complicate the situation even further. These complications, however, have made it possible to study the steps by which sexual maturity is reached.

To explain his observations, Freud developed a theory of sex, an attempt to explain psychosexual development on biological grounds. His "sexual theory" is based upon observations gained from psychoanalytic experience and upon speculations based on these observations. Its correctness must be tested by biological evidence. Freud defined the drive or instinct as the psychic representative of a continuously flowing innersomatic source of stimulation. It marks the limit between the somatic and the psychic by creating a demand upon the psychic apparatus to deal with the energy of the drive. According to this concept, the drive is defined by its source, its aim, and its object.

What is the source of the sexual drive? In his *Three Contributions to the Theory of Sex* (1930), Freud wrote: "It remains entirely unexplained whence the sexual tension comes . . . and what is its nature." He assumed that ". . . a certain amount of *sexual tension* is necessary for the excitability of the erogenous zones." There still remained the problem of defining the origin of sexual tension. Freud, in accordance with the biological theories then current, concluded: "In the interstitial tissues of the gonads special chemical substances are produced which, taken up in the blood stream, permit the charge of definite parts of the central nervous system with sexual tension." This is still the generally accepted concept. But the physiologist and the psychoanalyst do not think that the sex hormones pro-

duce or are identical with the sexual drive. Nor do they suppose that hormones are identical with sexual energy. In his posthumous work, *Outline of Psychoanalysis* (1940), Freud assumed that hormones regulate the amounts and distribution of energy with which the psychic apparatus has to deal. This again is in accord with the present knowledge of physiology. The question of the origin of the sexual drive was always central in Freud's thinking; from his early observations he gained the conviction that sexual life does not begin at puberty but much earlier, perhaps as early as life itself. Manifestations of infantile sexuality had been observed and described before Freud (Lindner, 1897). Freud was the first to understand that such playful activities as thumb sucking are not accidental but are manifestations of a vitally important developmental process. In his search for an explanation and in his effort to emphasize the biological nature of those functions, he used the term "sexual" to describe the general function of obtaining pleasure. By infantile sexuality he meant the sensation of pleasure and the release of tension achieved by the various forms of gratification in infancy. It was perhaps Freud's earlier training in the scientific tradition which prompted him to look to anatomy for explanation. This led him to emphasize the "zones" of gratification more than the process of gratification. It was assumed that for each period of psychosomatic growth, a specific zone is the major source of pleasure. In the first period this is the mouth, the organ by which the function of intake is achieved and bodily growth assured. This function creates a surplus of excitation in the organ—this was the concept of erogenous zones—which leads the infant to continue sucking, not for the original purpose but solely for pleasurable gratification. The second phase of normal development is signalized by the struggle for efficient control of the sphincters. This struggle creates surplus excitation in the sphincter region which characterizes the second or anal phase of pregenital development. In the third phase there is concentration of the surplus excitation upon the genitals. This infantile sexuality may also correctly be called a pregenital phase, as Freud in the *Outline of Psychoanalysis* (1940) has designated as pregenital all sexual activities which occur before sexual maturity is reached and which are created by the surplus excitation of the organs. When physiological maturity is reached, the sexual drive, together with the psychosomatic development, attains the genital phase.

This anatomical concept proved inadequate as an explanation of many psychoanalytic observations. Ferenczi (1938) struggled with this concept and tried to combine it with a more functional explanation. His thesis was that the function of every organ is a combination of basic biological functions, such as incorporation, retention, and

elimination. Alexander (1935) later applied this functional concept to an explanation of the facts of pregenital development. His vector concept emphasizes the biological tendency which seeks gratification rather than the organ by which gratification is achieved. Thus the difference between the libido theory and the vector concept of sexual development is a shift from an anatomical to a physiological concept. The physiological concept has many advantages: it is more dynamic, less rigid, and permits finer analysis of the psychosomatic processes. According to this concept, every physiological function is a combination of the three basic biological tendencies. By analyzing a function, we are able to determine the sequence of the primary processes of reception, retention, and elimination. The central physiological tendency is expressed in the goal of the function. In sucking, for example, we assume that the dominant aim is to be fed. But the function itself can be resolved into active intake, active muscle action of sucking and retention of the nipple, air, and milk. Each step could be further analyzed, but in the end the "passive receptive tendency" is gratified and we therefore conclude that this is the vector of the tendency that dominates the early developmental period. While this period corresponds to the "oral phase of the libido," it has a broader implication, for passive pleasurable gratification is achieved not only at and by the mouth but more or less by the whole surface of the body. The skin is therefore just as important a libidinous organ as the mouth. At the same time, however, the infant has active tendencies as well. For example, the spontaneous activity of pleasurable wiggling or kicking produces sensations which are important means of gratification. Even though the passive receptive tendencies dominate early infancy, pleasurable and painful stimuli of retention and elimination play a part in the integration of bodily growth at the same time.

The anal phase of development is even more complex. In it the eliminative and retentive tendencies serve not only the gratification of a physiological need and secondarily libidinous gratification, but they also express the child's relation to his environment. Thus the development and outcome of the anal phase do not depend solely upon the excitation in the erogenous zones but also upon object relationships. Just as the development of the oral phase depends on the child's relation to the mother, so in the anal phase it is conditioned by those adults who have dealt with his training. For there is no phase of development in which the infant as a living, growing unit can be considered apart from its environment.

The mother is the most important environmental factor during early life. The child turns to her for his early physiological and psychological gratification. This exclusively dependent relationship, true

for both boy and girl, must give way to a later phase when the psychosexual emotions concentrate upon the parent of the opposite sex. This is known as the "oedipus phase" and marks the end of the early psychosexual development.

The psychoanalytic concept of sexuality does not assume a single source for the sexual drive. Psychoanalysis looks upon the sexual drive as the manifestation of a vital energy, originating in the process of growth and aiming at ever greater integration. Its pregenital development is a complex process of obtaining gratification in various ways and is subsequently brought into the service of the reproductive function at the time of genital maturity. Before sexual maturity is achieved, the individual must pass through several crucial phases when new adaptation and new integration are necessary to further growth. If the integration has been successful and has occurred smoothly, the specific pregenital tendencies lose some of their psychodynamic importance. If the normal growth process is disturbed, however, then the pregenital tendency, dominant at the time, will not be integrated with other needs and demands of the personality but will persist and thus interfere with further development. *Fixation* is the term used for such disturbance. If some traumatic event later disturbs the balance of the integrated tendencies, *regression* occurs. This is the term used to designate the process by which the pregenital tendencies are reinforced and come to dominate behavior.

The development of the sexual drive is only one aspect of the growth process. We must consider that ego drives, such as tendencies for dominance, form an intricate interrelation with the tendencies of the sexual drive. The manifestations of the two systems of drives—sexual and ego—create the personality with its great variety of demands, ambitions, needs, inhibitions, and gratifications. By describing the developmental and dynamic interrelation between the two systems of drives, we define *the personality structure* of an individual. The "dynamic diagnosis" used in psychoanalysis is a delineation of the personality structure. It emphasizes those genetic moments when fixation occurs and creates a conflict between opposing psychodynamic tendencies. Through a growth process the individual reaches a "specific level of psychosexual maturity," which level is generally used as one characterization of the personality. The level of psychosexual maturity expresses the degree of psychosexual integration. When this is well balanced and dominated by genital aims, we speak of the genitally mature personality. If the process of integration is disturbed by regression and is dominated by one or the other pregenital tendency, we speak of a "pregenital type of personality." In Chapter 9 the developmental history and the personality structure of several cases

are presented. These cases illustrate different degrees of psychosexual maturity in relation to their sexual cycles. They also demonstrate how the psychodynamic conflicts are reflected in the sexual cycle. In these cases one may observe that the sexual drive manifests itself by various psychodynamic tendencies in one and the same individual, no matter to what degree psychosexual maturity characterizes the personality structure. Thus patients whom we would designate as psychosexually mature may express the sexual drive as a genital desire on one day, while on another the oral and anal tendencies may motivate the psychological manifestations. The same day-to-day variation is also true for the individual whose personality structure is characterized by the dominance of pregenital tendencies. As we know, the basic personality structure does not change quickly. While it may change either in the direction of growth or of regression after important experiences, and while it also changes during and after a tedious psychoanalytic treatment, it can nevertheless be regarded as practically constant; it thus serves as the medium and the instrument through and by which we recognize the fluctuations of the sexual drive. We can explain this with a crude comparison. We know that the early attachment to the mother, the oral fixation, determines very important aspects of the personality. It motivates behavior—eating habits and appetite, for example. In spite of this, the need for intake of food recurs physiologically. The gratification or the control of this need may be influenced by the fixation to the mother, but the variable intensity of hunger is recognized when the need arises. This is also true for the sexual need. However complicated its development has been, however intricate an adjustment of the total personality it necessitates, we recognize a physiological fluctuation of the sexual need.

In our analysis of psychological material we attempt to find the inner psychic motivation which produces the day-by-day change in behavior; we define these motives as *psychodynamic tendencies* which represent—at least partially—a reaction to internal physiological stimuli produced or activated by the gonad hormones. A single organ may express different psychodynamic tendencies; a single tendency may be manifested by various organs. For example, the mouth may be used not only for the expression of receptive tendencies but for the expression of the eliminative tendency as well. Receptive tendency may be expressed not only by the mouth and the skin, but also by the vagina. This is true for all psychological manifestations of organ functions. For the purpose of hormone evaluation it is eminently important to determine whether a tendency is expressed through the *organ of its physiological function*, for example, sexual receptive tend-

ency by the vagina rather than through the mouth, which in this instance is the organ of infantile gratification. The evidence of correlations achieved by these distinctions in the psychodynamic manifestations offers proof of the heuristic value of the vector concept (Alexander, 1935, 1934).

For further study, comparison, and for statistical evaluation, the two sets of data are summarized in tabular form (see Tables 17-42). Each table represents a sexual cycle. The first column in these tables gives the date, and the second a summary of the psychoanalytic material which is occasionally a verbatim quotation but which usually involves an interpretation. We are aware of objections to such a presentation. Yet the method has its advantages, for it enables us to present psychoanalytic data from day to day over a period of several cycles. These data support our interpretations of the sexual drive as shown in the third column under the heading, "Psychodynamic Tendencies." Since we noted every tendency which was expressed strongly enough to influence us in predicting the type and level of hormone production, one or more tendencies may be listed for the interpretation of one day's psychological material. In column four the prediction is shown. The fifth column describes the vaginal smear by cell types, and the sixth gives the basal body temperature. The last column indicates the hormone state as diagnosed from the vaginal smear and basal body temperature. The correlation is shown by the degree of correspondence between the entry in column four and that in column seven.

In Table 2 (Chapter 2) we present figures showing the number of observations, both for the individual patient and for the group, of correct predictions, and the discrepancies. As we have mentioned before, these predictions are often based on more than one correlated psychodynamic tendency. The evaluation of various psychodynamic tendencies in relation to one another enables us to predict not only qualitative variations but also quantitative fluctuations in hormone production. Here we wish to discuss those considerations which influenced us in estimating the qualitative and quantitative fluctuations of ovarian hormones and thus discover how reliable our predictions are. For this purpose we must also describe the most common psychological manifestations of the psychodynamic tendencies and give our reasons for correlating them with a specific hormone state. We wish to emphasize, however, that our aim here is not theoretical; we are not attempting to clarify psychoanalytic concepts. This can be reserved for later study. Our chief aim is that this chapter shall serve the purpose of a glossary of the interpretations on which we based our predictions of the hormone states.

The *active, outwardly directed sexual tendency* expresses itself in heterosexual interest and activity, in erotic wishes, desires, fantasies, and dreams. The emotional state normally accompanying the sexual drive may be described as *libidinous*. This refers to an emotional state in which sexual drive becomes conscious and is directed toward the object with pleasurable feeling-tone. The object of the sexual drive is normally a heterosexual partner, but it may also be a homosexual object. Adequate expression of heterosexual desire, even in adults, is not always permissible. The emotional intensity of heterosexual desire varies in different individuals and also in the same individual, depending on the actual situations. While one person may seldom experience sexual desire as a conscious wish, another may feel a great variety of emotions ranging from vague longing to conscious desire, even to the point of urgent need, of being driven. We have stated above that we relate this changing emotional intensity to increasing hormone production. The emotional concomitant of active sexual drive, however, is not always a libidinous feeling. Not only is the psychodynamic tendency corresponding to estrogen production extroverted, but other centrifugal tendencies of the entire personality are intensified as well. This may be expressed by an increase of the individual's general activity. During the early estrogen phase of the cycle we often found that fantasies, dreams, and actions as well express a greater, more sublimated object-interest than at other times. Patients often report an increase of extroverted activities and an improvement in their work. This behavior alone is interpreted as a sign of incipient estrogen production even when no other psychological material characteristic of sexual behavior induced by estrogen production is present. This active libido tendency often increases in intensity and it may be expressed as a wish for masculine identification. The woman who feels at a disadvantage with men expresses her competitiveness or her wish to be a man during the estrogen phase of the cycle. We use the term *penis envy* to indicate the active libido tendency which is directed toward the penis, toward the man—not with the feeling of love but with the feeling of envy.¹ Thus the active libido

¹ Whether this reaction may be attributed to a basic constitutional bisexuality should not be discussed in this volume. Here we wish merely to state that the term "bisexuality" is not used in our interpretations of the psychodynamic tendencies. For our purposes the bisexual tendency was reduced to its components: masculine identification and masculine protest, dependence on the mother, and the wish to be loved by the mother as a son. In our study we had three cases which manifested homosexual perversions. The homosexuality of two of these could be explained on the basis of their neurotic development, and we found some corresponding disturbance in their gonad cycles (Cases VIII, X, and XV). How much of this disorder can be attributed to disturbance in psychodynamic development and how much is determined by *Anlage* we do not know. Further studies of homosexual perversion as well as of pituitary disturbances may lead us to detect psychodynamic correlations with anomalies in the hormone household which are more basic than correlations with the gonad function. (Such studies are in progress in the Institute for Psychoanalysis in Chicago.)

tendency, at least in some women, increases their own masculine, rather than their heterosexual, desire. This reaction sometimes takes the form of restlessness and irritability, especially when—either because of the actual situation or because of personality conflicts—sexual gratification is not permitted. In these cases the aggressive tendency toward the male is often directly correlated with increasing heterosexual desire, that is with estrogen production. Another type of reaction to the heterosexual drive is the fear of being attacked sexually. Anxiety is then the ego's defense reaction against the biological tendency which, as such, does not necessarily become conscious. Whenever this fear is expressed in the psychoanalytic material, we predict estrogen production.²

Sexual desire is the normal emotional concomitant of the sexual drive, but it is generally known that anxiety, defense, and aggression play an important role in sexual behavior, not only in human beings but also in animals. We may here note that we have been able to estimate the finest gradations of hormone levels in those cycles in which anxiety or aggression caused the emotional tension to mount step by step in response to the increasing physiological need. *Whenever the psychodynamic material showed libidinous desire, activity, or the defenses against it, that is, anxiety and aggression, we predicted estrogen production.*

The sexual desire and the defenses against it can be evaluated differently in relation to hormone production, according to the object toward whom the desire is directed. In the case of a normal adult, the object is the adult heterosexual partner. Psychoanalytic material, however, shows that the sexual tendency may be directed toward an object of childhood—toward the father or a sibling. It may be expressed as a repetition of infantile sexual curiosity or as infantile competition (especially with the brother). On this basis we also predict estrogen production. We estimate that estrogen production is higher when the sexual drive is directed toward the normal adult object, and we regard it as a sign of hormone decline when, in the same individual, emotional tension is concentrated upon an infantile sexual object. On the other hand, if the sexual development is inhibited by a too strong fixation to the infantile sexual object, even the maximum degree of estrogen production for this patient can be expressed by

² Though our material is not sufficient to make comparative evaluations, it is of interest to mention the difference between Cases IX and VIII. In Case IX (data for 264 days, 21 cycles), the chief symptom is anxiety, and its content is the fear of being attacked sexually. This symptom is always intensified when heterosexual desire increases. In the whole case we noted no instance of aggression in correlation with increasing estrogen production. In Case VIII (data for 204 days, 20 cycles), the central symptom is homosexuality. Under heterosexual tendency for this patient, we counted aggression and hostility toward men 43 times, whereas we found only two instances of the fear of being attacked sexually.

psychodynamic material directed toward an infantile sexual object (Cases IX and XI). Our material is not extensive enough to permit us to evaluate such individual differentiations in a microscopic way. The reason for this can be stated briefly. During the course of psychoanalytic treatment, the patient produces material which becomes the more infantile, the deeper the psychoanalytic procedure reaches. In order to evaluate such statistical material for the personality structure, we need cases with slide material for the entire period of a psychoanalysis. This problem is reserved for future investigation.

Fluctuations in psychodynamic energy can be recognized not only by the choice of objects, but also by the manner in which gratification is reached. One important way is through *masochism*, in which suffering is the means of gratification. Accordingly, dreams, fantasies, and behavior will express the desire to suffer or a fear which originates in the emotional conviction that the sexual role of woman is to be hurt or damaged or even to die. We have previously mentioned that individuals with infantile personality structures often react to increasing sexual needs with increasing anxiety. In these cases the fear of being attacked sexually, of being hurt or damaged, expresses the ego's reaction to the sexual need. This fear is often erotized. Masochistic desire is the result of a psychodynamic process in which erotized anxiety becomes the source of gratification. It is characteristic for the masochistic fantasy that the accompanying libidinous wish remains in a state of suspense for a long time. This emotional state, which is highly libidinous, corresponds to high hormone production in an individual whose personality development is motivated by strong masochistic tendencies.

For the purpose of hormone evaluation we must distinguish between the various forms of masochism. Libidinous masochism should be differentiated from the self-punishing or self-destructive emotional state which is also designated as "masochistic" in psychoanalytic terminology. This latter emotional state, the result of a psychodynamic process in which aggression is turned toward oneself, may be related to different hormonal levels. It is therefore necessary to determine by analysis the quality of the aggression which was withdrawn from the object and turned toward oneself. For example, it may happen that heterosexual desire is frustrated and the emotional reaction to the sexual partner becomes anger which, turned back on oneself, induces a self-punishing mood. Although the mood does not express libidinous feelings, the analyst detects its origin in the object relationship, and on this basis estrogen production is predicted.

Similarly, we analyze sadistic tendencies in order to determine whether or not they express libidinous desire. Because hostility, al-

though an object-directed tendency, lacks libidinous feeling and goal, we differentiate it from sadistic tendency. Sadistic fantasies often represent a counterpart to masochistic fantasies and may therefore be projections of one's own need for suffering. Only by a complete analysis of all other psychodynamic material can we determine whether the sadistic tendency corresponds to a higher or lower level of hormone production in the same individual. In the psychodynamic material of a given day during the premenstrual phase, the estrogen production corresponds to sadistic and masochistic fantasies more often than in any other part of the cycle.

The following table shows the variations of the active psychodynamic tendencies correlated with estrogen production. This table contains correct predictions only, and shows how many times each specific psychodynamic tendency was listed for each case and for the whole group. There were qualifying circumstances which made it possible to make exceptional predictions of other, atypical hormone states. Explanation of such special situations would involve discussion of the details of each instance and consequently they must be omitted here. Of a total of 1933 active psychodynamic tendencies, 1904 were correlated with estrogen and 29 (1.5 per cent) with other hormonal states. We must emphasize, however, that these figures, although brought together under one heading, really refer to greatly varying emotional and hormonal manifestations.

We shall now discuss correlations between the psychodynamic tendencies and progesterone production. In general terms we have already stated that progesterone corresponds to the passive receptive tendency of the sexual drive which, like the active libido tendency, has a great variety of emotional manifestations. According to our psychoanalytic concepts, these are regressive phenomena as compared with manifestations of the active sexual tendency. In our culture, activity, that is, a well-integrated relationship to the external world, is regarded as of the highest merit for self-preservation and social co-operation. Emotions which express a tendency to diminish this activity and isolate the individual from the external world appear to interfere with the individual's social function. Those individuals who act under the influence of a passive tendency impress us as being less adult and much closer to the emotional state of a child. It was surprising, therefore, to find that after ovulation an emotional state normally develops which is characterized chiefly by such "regressive" tendencies.

According to Freud's original concept, *narcissism* was the term used to designate the reservoir of libido in an individual, that is, the reservoir of his drives. The same term came to be used to describe the

TABLE 6
ESTROGEN CORRELATIONS—ACTIVE PSYCHODYNAMIC TENDENCIES
DIRECTED TOWARD OBJECT

| CASE No. | No. OF CYCLES | HETEROSEXUAL TENDENCY. ACTIVITY, DESIRE, AND DEFENSE: ANXIETY AND AGGRESSION | MASCULINE IDENTIFICATION. ACTIVE HOMOSEXUAL TENDENCY | INFANTILE SEXUALITY. OEDIPUS COMPLEX. SEXUAL CURIOSITY. SIBLING RIVALRY. | MASOCHISTIC AND SADISTIC TENDENCY | EXHIBITIONISTIC TENDENCY | TOTAL CORRELATED ESTROGEN DAYS |
|----------|---------------|--|--|--|-----------------------------------|--------------------------|--------------------------------|
| I | 25 | 182 | 78 | 126 | 31 | 14 | 276 |
| II | 12 | 53 | 19 | 33 | 16 | 6 | 97 |
| III | 18 | 37 | 27 | 36 | 4 | 1 | 57 |
| IV | 7 | 46 (5 L.H.L.) | 8 | 12 | 0 | 9 | 51 |
| V | 4 | 31 | 3 | 8 | 0 | 0 | 31 |
| VI | 4 | 17 (2 P.) | 7 | 3 (3P.) | 0 | 0 | 27 |
| VII* | 4 | 116 | 9 | 51 | 1 | 1 | 117 |
| VIII | 13 | 98 | 24 | 46 (5 L.H.L.) | 0 | 3 | 91 |
| IX | 20 | 191 | 39 | 57 (4 L.H.L. & 1 P.) | 1 | 13 | 171 |
| X | 7 | 55 | 27 | 20 | 19 | 2 | 49 |
| XI | 8 | 57 | 12 | 13 (3 L.H.L.) | 0 | 0 | 26 |
| XII | 10 | 60 | 14 | 24 (4 L.H.L.) | 0 | 1 | 64 |
| XIII | 8 | 77 (1 L.H.L.) | 4 | 8 | 0 | 7 | 56 |
| XIV | 1 | 5 | 0 | 1 (1 L.H.L.) | 0 | 0 | 6 |
| XV | 4 | 13 | 12 | 11 | 1 | 4 | 23 |
| | 152 | 1038 L.H.L. = Low hormone level: 6 P. = Progesterone: 2 | 283 | 449 L.H.L. = Low hormone level: 17 P. = Progesterone: 4 | 73 | 61 | 1142 |

* In this case, incorporative tendency was correlated 11 times with estrogen only, not with estrogen and progesterone.

normal emotional state of an infant, whose libidinous feelings are concentrated upon itself, whose sole attitude toward the external world is receptive. When the libido is concentrated upon oneself, the emotional state is usually described as regressive because it is similar to the libidinous state of the infant. In the postovulative state, our patients found various expressions to describe the sudden relaxation, the warm, self-contented, self-satisfied feeling, the childish interest in their own bodies. The greater the emotional tension before ovulation, the greater the relaxation. This sudden decrease of active object-directed sexual tendency and this urge of erotization turned toward one's own body was the characteristic sign by which, without exception, we predicted ovulation when psychoanalytic material was available (see Table 1). With the influx of progesterone, there is an emotional relaxation which brings a feeling of well-being. It is as if the body were replenished with libido. The hormone level is high in this phase of the cycle. The self-centered feelings, the wish to be loved, should be regarded not as regression to an infantile form of gratification but rather as an expression of a change in the biological task of sexuality. *Ovulation* is the moment when the woman grows beyond her individual existence and prepares herself for the inception of a new life. This event is marked by several systemic reactions, such as change in metabolic rate, in temperature, and in electrical potential (Altmann, 1940; Burr et al., 1937; Rubenstein, 1938; Shorr, 1940; Zuck, 1938). The changes in the psychodynamic manifestations, which also represent a systemic reaction, are easily recognizable if we observe the characteristic course of emotions during the sexual cycle. We learned by analyzing the day-by-day variations of emotions in our cases that heterosexual tendency is often manifested as an urge, not necessarily accompanied by pleasurable libidinous feelings. One of our patients (Case I) described her feelings thus: "When I have a strong sexual urge, I feel hostility and I cannot have sex relations with him. When I feel love, I can accept him." The distinction between the active urge and the feeling of love is not so sharply marked in every woman, but thorough analysis enables us to differentiate the dynamic components of the feeling in every case. After ovulation we find a balance of three psychodynamic components: heterosexual desire, self-centered libido, and receptive tendency. Although the heterosexual tendency is maintained toward the object, it is changed by a fusion with the second tendency: the increased libidinous charge of the woman's own body. This expresses itself as a pleasant feeling of contentment and creates a wish to love and to be loved. The increased activity of the propagative organs enhances the libidinous charge of these organs. This sometimes becomes conscious as awareness of the genitals and pro-

duces a receptive desire. The three tendencies fuse into a highly libidinous state which generates the sexual receptivity necessary for the fulfilment of the woman's highest genital function—conception. The two components of this psychosexual state, the narcissistic, self-centered libido and the passive receptive tendency, which seem to supplement the heterosexual tendency in the late preovulative phase, we correlate with progesterone production.³

Whenever we recognize that the psychodynamic material is dominated by libidinous narcissism, we predict progesterone production. As we have said, this narcissistic awareness becomes conscious or frankly manifests itself in behavior after ovulation. This contented feeling, centered in one's own body, often meets a strict prohibition from the ego or superego. Then it is perceived not as a pleasurable sensation but as self-criticism. Such self-criticism may have objective justification and may express itself as a regret that one is not more beautiful, that one did not make better use of one's youth, that one did not dance or wear beautiful clothes. Even when it is seriously felt, such regret indicates clearly that the underlying psychodynamic tendency is an increased awareness of the body. At other times, when the superego exercises a prohibitive function, awareness of the body will be expressed by an exaggerated self-criticism. If analysis of this attitude reveals that it is a reaction to a primarily libidinous feeling, we also state it as "libidinous narcissism" (see Table 7).

There is still another emotional state in which the object of the psychic energy is the person's own self and in which the emotion is depressive, self-depreciatory, and painful. This feeling is often expressed by statements that the female genitals are dirty, damaged; that to be a woman is humiliating and depressing; that woman's sexuality is a repulsive function. We find that these feelings indicate a lack of feminine libido, a lack of pleasurable sensations originating in the genitals. The genitals, then, are not acceptable, and they may be regarded emotionally as a foreign body, often like excreta or something detestable. We refer to this emotional state by the term "negative narcissism," a term which has not been used in psychoanalytic literature heretofore. We introduce it to distinguish it from the libidinous feeling of self-love and as a differentiation from "inferiority feeling" created by the superego's prohibition of the enjoyment of

³ In female sexuality, the libido has a passive goal. It may thus seem peculiar that we speak of sexual function and desire of woman as sometimes motivated by active heterosexual tendency and sometimes by a combination of tendencies, only one of which is receptive. We must keep in mind that the goal of sexual function for woman is always logical course of the sexual act but rather the motives which induce the function. These motives are not constant; by their change they modify the emotions and attitudes which accompany the sexual act until it reaches—under normal conditions—its physiological completion.

narcissistic feelings. Negative narcissism refers to an emotional condition in which the awareness of the body is the focus of interest, but which shows no concentration of libido upon the body. The lack of libido, the lack of pleasurable sensation, is perceived with painful self-depreciation. We correlate this emotional state with lack of progesterone production, and when this emotional state prevails we predict low hormone level.⁴

The receptive tendency of the sexual drive is the biological tendency which is essentially correlated with progesterone production. Intercourse in women is of course a receptive function. Still, the psychodynamic tendencies of receptivity are manifested in the psychological material only during those phases when both hormones are present. The receptive tendency may manifest itself as the wish to be impregnated. Whenever we find this wish as a conscious effect or in dreams and fantasies, we predict progesterone production. In the psychoanalytic material, this tendency is not always expressed as a genital desire; it is often expressed as an oral manifestation, at which time we assume that the oral receptive tendency is a substitute, a symbolic expression, of the genital receptive desire. Even individuals of mature genital development sometimes express the genital receptive tendency by a displacement to oral manifestations. Case I, for example, reacted with oral receptive desire or with a defense against it, with nausea, to progesterone production. The psychoanalytic material in this instance showed clearly that these reactions were defenses against the genital tendency initiated by the hormonal state.

The receptive tendency is not always limited to passive qualities; it may become fused with active tendencies. This fusion of the active sexual tendency with the passive receptive tendency often increases the emotional tension and motivates strongly aggressive fantasies, such as biting off the penis or castrating the male by vaginal incorporation of the penis. This incorporative tendency is usually an expression of high emotional tension; it occurs most frequently in the preovulative state and indicates the fusion of high estrogen with incipient progesterone production in individuals who are frustrated. The frustration may be externally motivated, but even more often internally.

Progesterone is the hormone which controls the preparation of the uterus for nidation and which maintains the pregnancy. Corresponding to progesterone production, we observe in the psychological material manifestations of the wish to be pregnant, to have a child.

⁴ If narcissistic tendencies dominate the personality structure of an individual, its manifestations combined with other tendencies may occur through the whole cycle. The material in Case IV is illustrative of this all-pervading quality of narcissism.

Whenever the wish to be pregnant or the defense against it—fear of pregnancy and aggression against it—or the conflict with the child is dominant in the psychodynamic material, we predict progesterone production. It is difficult to describe the pregnancy wish in terms of dynamic psychology, for the emotional concomitants of progesterone are normally unobtrusive. There is no active urge. While the wish to incorporate the penis, the wish to be impregnated, may be expressed with great emotional emphasis, the desire to be pregnant is usually expressed by so-called “pregnancy dreams,” dreams centering around symbolism of the womb. In analyzing the psychodynamic material corresponding to the height of progesterone production, we find that not only the tendency to receive but also the tendency to retain is expressed, especially during the well-developed progesterone phase. The wish for pregnancy is the genital representation of the retentive tendency, yet manifestations of the retentive tendency are not limited to the genital level; they are often displaced to the gastrointestinal system. Constipation or abdominal distention, for example, may express the same tendency on the anal level that the “pregnancy wish” expresses on the genital level. On the basis of a retentive tendency and on the basis of a wish for pregnancy or a defense against it, we predicted progesterone production. Thus we see that the pregnancy wish or the defense against it is one of the most characteristic psychodynamic expressions of progesterone function.

In scrutinizing the complexity of those psychological manifestations summarized under the term “pregnancy material,” we find a great variety of emotional content. The pregnancy wish may be an expression of mature sexuality; it may represent a desire for or a defense against one’s own pregnancy; it may be related to one’s experience of childbearing and conflicts with one’s children. Very often, however, the pregnancy material is related to the mother’s pregnancy, expressing envy and curiosity or conflicts related to the birth of siblings; it may repeat the infantile wish to have a child by the father; and it may be even more regressive: that is, the dreams may show womb symbolism representing the desire to withdraw into the mother’s womb.

A study of the psychological manifestations corresponding to progesterone production gives the impression that during this phase of the cycle the object of the psychodynamic tendency is one’s own body, one’s genitals, one’s capacity for motherhood. All the steps of emotional striving to reach the level of complete propagative maturity may be repeated in correlation with progesterone production. Psychoanalytic observation has shown that feminine development depends in great part upon the girl’s relationship with her mother (Burr,

Hill, Allen, 1937 ; Freud, 1932). It is interesting that we find a repetition of all forms and phases of the mother-conflict, and of all attempts at identification with her, in correlation with the progesterone phase of the cycle. This is not the place to describe typical conflicts with the mother, how sexual development may be hampered by these conflicts or helped by their fortunate solution. The emotional relationship of mother and daughter shows innumerable variations, beginning with oral dependence and proceeding, step by step, to the desire to be like the mother. This goal, to be like the mother and to be in her place, causes the basic conflict with her. In our material, sometimes even during the course of one cycle, we have observed rivalry with the mother for the father's love, jealousy of her pregnancy, hatred of the mother because of new-born siblings and then, possibly, a reconciliation with the mother or solution of the conflicts by identification with her. Whenever the relationship to the mother is the center of the analytic material, we predict progesterone production. Our statistical evaluation is not detailed enough to show that we invariably predicted high progesterone production when the content of the psychoanalytic material was reconciliation or identification with the mother, or that we estimated a lower level of hormone production when the hostile tendencies against the mother became strong.

Manifestations of motherliness, the tendency to give, nurse or feed are not passive-receptive. It is not improbable that these manifestations, which usually appear after the peak of a well-developed progesterone phase or even during menstrual flow, are not directly related to progesterone. Since the vaginal smear shows no evidence of other hormone we agreed to correlate these emotional manifestations of motherliness tentatively with progesterone production.

Our psychoanalytic cases are often individuals who fail to reach a normal solution of female development. Instead of striving for the adult goal to be a mother, they wish to remain children and be protected by the mother. This psychodynamic need may manifest itself by various tendencies, such as the wish to be fed, or by an infantile need for love, for shelter, and for passive tactual sensations. This is a libidinous, self-centered emotional state which is a normal expression of the physiological and psychological needs of an infant, but it unquestionably represents a regression in the emotional life of an adult. We designate these regressive manifestations of the passive receptive tendency as "dependence." Its correlation to the hormonal state, however, requires closer scrutiny. Progesterone production corresponds to a passive receptive tendency which in genitally mature individuals is usually expressed as genital receptiveness. In individuals whose whole personality structure is characterized by such emotional

dependence, we find a repetition of dependent needs in correlation with progesterone function. But this is exceptional. For example,⁵ in Case IX dependence is stated 37 times; it is correlated with progesterone 13 times and with low hormone level 24 times. In Case VII, dependence is stated 28 times; it is correlated with progesterone 8 times and 20 times with low hormone level. It is worth mentioning that whenever we dealt with a genitally mature personality structure, such as Case I, II, or III, there was no correlation between dependence and progesterone production. Always in these cases, and generally in others, we recognize dependence as a sign of regression of the sexual drive to an infantile form, and we therefore predict decline of hormone production or low hormone level.

We have yet to account for another psychodynamic manifestation of progesterone, the homosexual tendency. This tendency in women may be related to different instinctual conflicts. We have already said that on the basis of masculine identification, homosexual desire or activity may become manifest. At such times it is correlated with estrogen production. More frequently the passive dependent fixation to the mother is expressed by seeking a libidinous object who can be a substitute for her, or in cases in which the fixation to the sister is more important, a substitute for the sister. At other times the infantile narcissism persists, and one loves a homosexual partner as one wants to be loved. Fixation to the mother or sister and narcissism may be manifested by homosexual desire or behavior. We correlated these manifestations with progesterone production.

When progesterone production declines, the centripetal quality of the psychodynamic tendency changes and again becomes centrifugal. This centrifugal tendency, in contrast to the active psychodynamic tendency of the estrogen phase, is not object-directed: its aim is elimination. We denote it as "eliminative tendency." *Whenever we find that elimination is the dominant dynamic tendency, we predict decline of progesterone production or low hormone level.*

The eliminative tendency may be expressed on the genital level. Dreams and fantasies about childbirth, about abortion, or about the impending menstrual flow are the emotional representations of a need for discharge from the genitals. This often becomes conscious and clinically observable. The patients complain at this time of fullness in the genitals, of a bearing-down feeling which heralds the impending menstrual flow. There may be great variety in the emotional reactions that accompany the eliminative tendency, depending on other factors that influence the late premenstrual phase. Here we

⁵ See Chapter 9.

TABLE 7
PROGESTERONE CORRELATIONS—PASSIVE RECEPTIVE TENDENCY

| CASE No. | No. OF CYCLES | LIBIDINOUS NARCISSISM | GENITAL RECEPTIVE TENDENCY; ORAL RECEPTIVE TENDENCY AS SUBSTITUTE, AND DEPENDENCE | RETENTIVE TENDENCY, PREGNANCY WISH AND DEFENSE, RELATIONSHIP TO CHILD | MOTHER-CONFLICT AND MOTHER-IDENTIFICATION | NURSING; FEEDING; MOTHERLINESS | PASSIVE HOMO-SEXUAL TENDENCY | TOTAL CORRELATED PROGESTERONE DAYS |
|----------|---------------|-----------------------|---|---|---|--------------------------------|------------------------------|------------------------------------|
| I | 25 | 50 | 69 (2 L.H.L.) | 112 (1.H.L.) | (2 E.) 123 (4 L.H.L.) | 13 | 51 | 250 |
| II | 12 | 9 | 27 | 28 | 35 | 13 | 4 | 64 |
| III | 8 | 7 | 12 | 20 | 27 (1 L.H.L.) | 21 | 20 (2 L.H.L.) | 59 |
| IV | 7 | 25 | 21 (6 L.H.L.) | 6 | 12 | 1 | 10 | 44 |
| V | 4 | 5 | 24 | 6 | 8 | 3 | 1 | 22 |
| VI | 4 | 11 | 28 | 21 | 14 | 2 | 4 | 31 |
| VII | 13 | 12 | 50 | 22 | 34 (2 E. & 2 L.H.L.) | 21 | 16 (1 E) | 111 |
| VIII | 20 | 19 | 45 | 31 | 63 (2 E. & 2 L.H.L.) | 11 | 20 (3 E) | 93 |
| IX | 21 | 37 | 56 (3 E.) | 44 | 51 (2 L.H.L.) | 13 | 16 | 133 |
| X | 7 | 17 | 23 | 34 (1 L.H.L.) | 16 (1 L.H.L.) | 4 | 9 | 44 |
| XI | 8 | 22 | 23 | 4 | 12 (1 L.H.L.) | 0 | 8 | 24 |
| XII | 10 | 13 | 28 | 7 | 28 | 1 | 15 | 47 |
| XIII | 7 | 7 | 3 (4 L.H.L.) | 0 | 4 | 4 | 4 | 13 |
| XIV | 1 | 2 | 8 | 0 | 1 | 0 | 1 | 3 |
| XV | 4 | 4 | 8 | 5 | 6 | 0 | 1 | 9 |
| | 152 | 240 | 420 | 340 | 434 | 107 | 180 | 947 |
| | | 6 L.H.L. | 12 L.H.L., 3 E. | 2 L.H.L. | 11 L.H.L., 4 E. | | 2 L.H.L., 4 E. | |

E. = Estrogen
L.H.L. = Low Hormone Level

account only for those variations which we correlate with changes in gonad hormone production. One of the typical premenstrual hormone constellations is that a high estrogen production appears simultaneously with declining progesterone. In correlation with it, the eliminative tendency fuses with the active object-directed heterosexual tendency. This fusion creates a high emotional tension which intensifies the emotional expression of heterosexual need. Another manifestation of this fusion is castration fear. Before the onset of the menstrual flow, dreams and fantasies commonly express, consciously or unconsciously, that menstruation is identical with castration, that bleeding is the external evidence that woman has lost the penis. We find that this rebellion against femininity often expresses the fear that the mother has perpetrated this punishment. An analysis of the psychological material shows this fusion of two tendencies clearly: the heterosexual tendency on the one hand, expressed by masculine identification, by the wish to have the penis and thus to avoid menstruation; the eliminative tendency on the other hand, expressed by the need to discharge, associated with losing the penis—a feeling usually accompanied by fear. This psychological material is characteristic for cases of dysmenorrhea, and often heralds menstrual cramps, even in women who do not ordinarily suffer from dysmenorrhea. On the basis of such psychological material, we predict declining progesterone plus estrogen production.

When estrogen production does not increase during the premenstrual phase, the eliminative tendency is often accompanied by a feeling of depression. The need for discharge is accepted by the patient, whose complaints express sadness, emotional emptiness, loss, or regret. These feelings may refer to genital loss as a feeling of castration or abortion. Premenstrual depression is an emotional reaction that is typically correlated with low hormone level.

So far we have discussed the genital forms of the eliminative tendency. This tendency, however, is often expressed in the psychoanalytic material by displacement to the eliminative organs, to the gastrointestinal and urinary systems. The mouth can also be regarded as an eliminative organ. Nausea and vomiting are correlated with progesterone when they indicate displacement of the receptive tendency to the mouth.⁶ When only elimination is indicated, nausea and vomiting

⁶ The psychological material expressing oral intake or anal-urethral elimination may be motivated by a physiological need quite independent of hormone production. We have emphasized the importance of physiological stimuli for dreaming. The only stimuli which were evaluated for prediction of the hormonal state were the direct sexual stimuli. If bodily conditions other than sexual influenced the psychoanalytic material, then we made no prediction and noted the reasons why prediction was omitted.

are correlated with low hormone level. Thorough analysis may enable us to distinguish whether oral symptoms represent the defense against the receptive tendency or whether they are a direct expression of the need for elimination. Our analysis of the urinary tendency as it appears in dreams and in other psychoanalytic material shows that it represents two tendencies: masculine identification and eliminative tendency. On this basis we predict both declining progesterone and estrogen production. (See Case VIII.) If urinary elimination expresses only the tendency to discharge fluid profusely, we interpret it as a displacement of the genital eliminative tendency, as a symbolic representation of childbirth, in which case we correlate it with low hormone level.

More commonly, the pregenital form of the eliminative tendency is expressed in the psychoanalytic material as anal regression. We correlate the anal eliminative tendency with decline of progesterone production or with low hormone level. This does not occur only during the last phase of the menstrual cycle, for anal regression can be the dominant psychodynamic tendency at any time during the cycle corresponding to declining hormone production. We evaluate the anal eliminative tendency as a regression of the sexual drive from its genital integration to a pregenital, anal level, and correspondingly we predict declining or low hormone level. We do not maintain that every manifestation of eliminative tendency on the anal level is a sign of impending menstrual flow, but we emphasize the fact that, on the basis of the anal eliminative tendency, we predict low hormone level. On the basis of this interpretation there was only one discrepancy. We frequently found anal regression in cycles in which the hormone production was insufficient.

Sometimes, however, we encounter psychodynamic material which shows erotization of the eliminative tendency. In all our cases we found this erotized eliminative tendency only eight times. This psychodynamic material we correlated with progesterone production. The assumption for this evaluation was supported by the psychoanalytic material which showed receptive and retentive tendencies expressed as erotized anal regression (for example, Case VII).

The emotional concomitants of anal regression vary greatly, depending on how the ego reacts to it. Erotized anal tendencies may be followed by self-criticism; nonlibidinous anal eliminative tendency is usually accompanied by a self-depreciative, depressed mood. Dissatisfaction with one's soiling and soiled body, dissatisfaction with feminine sexuality, are parallel emotions accompanying anal regression. The patient reacts as if genital sexuality did not exist, as if she con-

ceived of her own sexuality in anal terms and therefore found it detestable. This depressed mood in which patients complain, "I am dirty, messy" or "I am soiled," is similar to the emotional manifestations of negative narcissism in which the patients complain, "I am dirt." Identification with the excretum is the result of a nonlibidinous preoccupation with oneself which we correlate with low hormone level.

We shall not attempt to justify such distinctions as *nonlibidinous anal eliminative tendency* and *negative narcissism*. One could easily say that they are the same psychodynamic manifestations and that to make a distinction between them is artificial. Although their emotional concomitants show only a slight difference, there is a greater difference in the direction of the underlying tendencies; and on this basis a distinction is both possible and desirable.

Among those psychodynamic tendencies which we correlate with low hormone level we also find *hostility* which we distinguish from aggression. We use the term *hostility* descriptively to characterize an emotional state of unfriendliness, lack of pleasurable feeling, an unhappy mood which often finds its expression in nagging. Whether the nagging is directed toward oneself or toward an object, it is in any case a sign of the lack of libido. This trait is a very common emotional manifestation of the late premenstrual phase. The anal eliminative tendency, hostility, and negative narcissism—all are intricately interrelated psychodynamic manifestations corresponding to the same hormone state, namely, to the premenstrual low hormone level. The symptomatology during this phase shows great variation, depending on quantitative differences of these tendencies. One form is the premenstrual depression in which hostile feelings are directed toward oneself.

The destructive tendencies then become more manifest and may be directed toward the environment or toward oneself, as in suicidal attempts and fantasies which often occur during the premenstrual phase. At other times self-destruction is not so manifest and causes only an increased emotional tension. In either case we correlate the hostility and destructiveness with low hormone level.

The acuteness of emotional reactions during the premenstrual phase, the emotional intensity, the vividness of dreams and fantasies, led us to use the term *premenstrual reaction* to indicate that we assume that this emotionally highly charged psychological material does not correspond quantitatively to a high level of gonad hormone production. In the evaluation of our predictions, we mention this fact because we feel that this assumption has greatly reduced the number of discrepancies.

TABLE 8
CORRELATIONS TO LOW HORMONE LEVEL

| CASE No. | No. OF CYCLES | DEPENDENCE: INFANTILE, DEMANDING | DEPRESSION; FRUSTRATION | ELIMINATIVE TENDENCY | | NEGATIVE NARCISSISM | HOSTILITY: DESTRUCTIVE AND SELF- DESTRUCTIVE | TOTAL CORRELATED L.H.L. DAYS |
|-------------|------------------|--|----------------------------|-----------------------|-------------------------------------|------------------------|---|---------------------------------------|
| | | | | Genital Level | Anal and Urethral Level | | | |
| I | 25 | 115 (1 E.) | 40 | 68 (1 P.) | 34 (1 P.) | 15 | 57 (3 E.) | 125 |
| II | 12 | 27 | 3 | 3 | 11 | 3 | 14 | 22 |
| III | 8 | 19 | 12 | 9 | 0 | 5 | 4 | 17 |
| IV | 7 | 22 | 6 | 1 | 6 (2 P.) | 0 | 5 | 28 |
| V | 4 | 7 | 2 | 3 (2 P.) | 6 | 0 | 2 | 6 |
| VI | 4 | 6 | 3 | 2 | 7 | 2 | 0 | 12 |
| VII | 13 | 20 | 7 | 18 (1 P.) | 4 | 24 | 4 | 71 |
| VIII | 20 | 31 | 19 | 15 (1 P.) | 35 (3 P.) | 9 | 13 | 47 |
| IX | 21 | 28 | 10 | 38 (2 P.) | 40 (1 P. & 1 E.) | 2 | 6 | 30 |
| X | 7 | 35 | 18 | 26 | 0 | 10 | 20 | 56 |
| XI | 8 | 21 | 14 | 0 | 2 | 3 | 4 | 19 |
| XII | 10 | 27 | 25 | 11 | 14 | 6 | 2 | 73 |
| XIII | 8 | 9 | 22 | 0 | 1 | 22 | 5 | 30 |
| XIV | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 3 |
| XV | 4 | 16 | 8 | 10 | 0 | 5 | 11 | 16 |
| | 152 | 385 1 Estrogen | 190 | 205 7 Progesterone | 161 7 Progesterone 1 Estrogen | 100 | 147 3 Estrogen | 555 |

E. = Estrogen
P. = Progesterone

Summary

We have completed our commentary on the interpretation of psychoanalytic material and have shown how we utilized psychodynamic tendencies for prediction of hormone production. We may repeat here that we analyzed the psychoanalytic material day by day; the material of a given day was compared only with that of the previous and of the following day. We are convinced that had we analyzed the sexual cycle according to expectations based solely on knowledge of the physiology of the cycle, our predictions would have been much less correct because of irregularities of the cycles.

In this chapter we defined the various psychodynamic tendencies and demonstrated how these were related to the specific qualitative and quantitative changes in gonad hormone production. We have briefly discussed the psychoanalytic concepts of the development of sexuality in order to introduce the theoretical foundation for our interpretations. (See Chapter 10.)

Tables 6, 7, and 8 show the correlations of estrogen, progesterone, and low hormone level with the respective psychodynamic tendencies. They also show in which cases and on the basis of which psychodynamic tendencies atypical predictions were made. Table 4 (Chapter 2) summarizes the numbers of psychodynamic tendencies on the basis of which we made the predictions of hormone production. Of the total 4905 statements, 4813 were utilized for prediction according to the criteria which we have described; in the remaining 92 we were obliged to modify these criteria because of circumstances in the actual situation of the patient's life or emotional condition. Thus 98.15 per cent of the tendencies could be applied by a quite simple formula, while 1.85 per cent of the formulae had to be modified or abandoned, as was indicated by special circumstances in the material.

By reducing the endless variety of psychic manifestations to simple dynamic factors we have been able to make relatively simple correlations between manifestations of the sexual drive and gonad hormone production. Because we forced psychic phenomena into so simple a framework, it is important to remember that even those psychodynamic tendencies which are compiled and tabulated under one heading refer to varying and complex psychic phenomena. Correlations can be worked out only when the investigator, knowing the reaction formations of a given personality, forms an "individual equation" for every case in evaluating the day-by-day variations.

CHAPTER 6

A STUDY OF TWO CYCLES

In our preliminary publications, we stated that psychoanalytic material, especially dreams, reveals changes in psychodynamic tendencies which are characteristic for the specific gonad hormone and for each phase of the sexual cycle. Our concern at that time was to show that all the patients within the range of our observation produced such typical changes. Therefore, instead of presenting the psychodynamic material throughout one sexual cycle as a unit, we presented dreams from the case material of several individuals to demonstrate that each patient showed the typical psychodynamic correlation for each phase of the cycle. Now, however, our endeavor is to present our technique of interpretation and prediction in all its aspects. We therefore present the analysis of two cycles in sufficient detail to demonstrate how we evaluate not only the dreams but all the available psychological material, and to show the interrelation between the various psychodynamic tendencies as an expression of the variations in hormone production.

Our first example is Cycle I of Case I, which was the first to be investigated in our study. The history and personality structure of this patient are presented in Chapter 9. The patient began psychoanalytic treatment on March 9, 1937. She started taking vaginal smears on June 10, the last day of the menstrual flow which had begun on June 6.

We do not present the entire record but we do set forth all the material that is pertinent to interpretation and prediction. It should be borne in mind that the interpretations presented here were not necessarily those made during the psychoanalytic sessions but were formulated after the cyclical changes in ten cycles had been examined for the purpose of predictions. For evaluation of the transference situation it is to be noted that the analyst was a woman.

Case I

JUNE 10. The patient is quite perturbed about the vaginal-smear test. She feels hostile. "I felt restless, I could not sleep. I thought of childbirth. I thought you screamed, too, when you delivered your

child." She then tells how she had tried to minimize her fear of labor before it started, and gives a description of the labor. "Yesterday I felt so uncomfortable, as if I were carrying my child again in my body. The birth could not take place. I felt the birth had to take place."

The two tendencies around which her associations play are the wish to retain the child and the wish to give birth.

Interpretation: The patient is hostile toward the psychoanalyst, who represents the mother.

Psychodynamic Tendency: Conflict between retentive and eliminative tendencies.

Prediction: Low hormone level; "progesterone-like."

Vaginal Smear: Occasional red blood cells, #7-1.

Hormonal State: Low hormone level.

JUNE 11. "I feel better today. I seem to be aware of my breathing. I can see you in the window." She thinks of superficial things around the Institute. Then she talks about the supervisor in her office who interferes with her way of handling children. She tells the following dream:

I dreamed about two people. I was accepting my father or my husband without court action, without any decision on the part of the judge.

The analyst asks who the judge is, and the patient replies, "Perhaps the mother, the supervisor." It is obvious that the judge is also the analyst. The dream means, "I wish I could accept my husband and be in love with him without analysis." But it makes reference to the father also. In this dream we are concerned chiefly with the fact that the patient turns emotionally to her husband. The associations continue: "I think of everything. In the waiting room, this doctor. There are so many good-looking doctors here. That is the way I 'transfer' to men." When the analyst asks "How?" the patient answers, "I go from one to another." She tells about men who are interested in her, and how she acts out her sexual interest in them.

Interpretation and Psychodynamic Tendency: Heterosexual tendency.

Prediction: Estrogen.

Vaginal Smear: #1-2.

Hormonal State: Incipient estrogen.

On June 12 and 13, Saturday and Sunday, there were no psychoanalytic sessions but there was enough material reported by the patient on June 14 to make predictions.

JUNE 12. After the previous session the patient had developed several symptoms. "My head hurt, my left foot hurt . . . I went to my mother's house and there I found not only the people whom I expected but two other friends and my brother from St. Louis. I fooled around with my brother. I made one aggressive joke after another. Saturday I felt well. I made many professional calls. I felt a drive to do so. I felt some tenderness. I was able to make good contacts with people."

Interpretation and Psychodynamic Tendency: The description of her mood and activity was interpreted as behavior motivated by heterosexual tendency.

Prediction: Increasing estrogen.

Vaginal Smear: #2-3(4).

Hormonal State: Increasing estrogen.

On Saturday afternoon, however, she had become depressed and tired; she felt, "I need a mother." The next association was: "That last interview on Saturday was conducted in a saloon. I went to the saloon to meet my client. He was drinking. I recall the scene here with Dr. A . . ." These associations refer to heterosexual feeling and indicate that she "needed a mother" to protect her from her own heterosexual tendencies. This is borne out in the continuation of her report: "Sunday morning when I awoke I had a sexual urge. I touched my husband. He reacted immediately, but I felt that the test instructions, not to douche, meant not to have sex relations. We had intercourse but I was afraid of you. I felt that you were like my supervisor: You have an absolute control over me, over my sex life."

Interpretation: The "need for a mother" is transformed to a fearful idea that the analyst controls her sexual life. But this defense reaction does not contradict our interpretation, that she increased the defense because her heterosexual need had become greater.

Psychodynamic Tendency: Heterosexual tendency and defense against it.

Prediction: Increased estrogen.

Vaginal Smear: On June 13, #2-3-4.

Hormonal State: Increasing estrogen.

JUNE 14. On June 13, after the unsatisfactory coitus, she felt tired, haggard. Her face was full of pimples. She was nervous and aggressive. On the night of June 13 she dreamed:

I do not remember the beginning. There was a person who was perhaps psychotic. When this person left, I called after her, "Your neck is very dirty."

"I remember that I was so irritated because I felt nothing but fear during the coitus." The dream had another part:

Libby came to this motherless home to clean it. I admired her because she came from such a long distance to this home.

Interpretation: These two dreams represent a reaction to the psychoanalytic situation which is complicated by the beginning of the smear test. The aggression, "Your neck is very dirty," is directed toward the analyst. The second part of the dream expresses her regret that she had no orgasm ("motherless home" equals vagina). Her vagina has to be cleansed; this refers not only to coitus but also to the vaginal-smear test. The dreams and associations show dependence on the analyst who cleans her home and protects her, and a hostility against the analyst, who interferes with her sexuality. This conflict is expressed symbolically in the dream.

Psychodynamic Tendency: Anal regression; aggression.

Prediction: Decline of hormone production.

Vaginal Smear: #2-3-4.

Hormonal State: Increasing estrogen.

This is a quantitative discrepancy which requires explanation. The patient was disappointed because coitus had left her unsatisfied, and she was worried about her relationship to the analyst. The analyst had become a mother-figure who interfered with her sexual life. She was afraid that her hostility toward the analyst would make her unhappy and might interfere with her analysis. She became depressed, worried, and anxious. This mood motivated her dream but it did not interfere with the gonad cycle, that is, there was a regression in her mood but not a manifest decline in the hormone production. It is not impossible, however, that the slow development of the estrogen phase was a result of her disappointment in coitus. Probably the estrogen production would have increased more quickly had coitus brought satisfaction.

JUNE 15. "I feel better today. I was concerned about you and Dr. F. I thought of Samson and Delilah. I thought of your hair and of my remark about your hair. Your hair looked like myself. Everything was dark inside of me. I had a smothering sensation. I have often told you that this was what started my great anxiety during pregnancy. I felt so sorry yesterday when I was critical of your hair. Collecting scalps—that started my anxiety." She dreamed:

I have a sexual urge, I want to get up, but you prevent me. You actually hold me down.

The dream shows the same tendency which she had been expressing for several days; she had a sexual desire, and the analyst interfered with its gratification. This is a continued reaction to the vaginal-smear test.

Interpretation: If we had taken into account only the dream and her reaction to the analyst because of her role in the smear test, we should have stated only heterosexual tendency and should have predicted only estrogen. But we evaluated other material also. The patient is critical of the analyst's hair; this means to her "collecting scalps" because she would like to cut off the analyst's hair as Delilah cut off Samson's. The analyst then would not be superior to her, could no longer force her to do things. Cutting off the hair, however, activates a train of association which is connected with her fears during pregnancy. If we analyze her thoughts about the smothering sensation she experienced because of the feeling that hair was in her stomach, we recognize the incorporative tendency.

Psychodynamic Tendency: Heterosexual tendency and incorporative tendency.

Prediction: Estrogen and progesterone.

Vaginal Smear: #2-3-4.

Hormonal State: Increasing estrogen.

In interpreting this material, however, we might have taken another stand. The heterosexual tendency is clearly expressed. The aggression toward the analyst is implicit in the reference to Samson. To cut off hair means to cut off the penis. Since the incorporative tendency is an oral aggression concentrated upon the penis, it could have been related to the estrogen phase alone. However, we estimated the oral incorporation as a displacement of genital desire and therefore predicted progesterone production also. This resulted in a partial discrepancy.

JUNE 16. No psychoanalytic material; no prediction.

Vaginal Smear: #2-3.

Hormonal State: Slight decline of estrogen.

JUNE 17. Patient reports that she had been somewhat slowed up in her work, but seemed to have a good relationship with people. "I thought a great deal of O. [her first adolescent love]. All night I thought of him."

Fear of being electrocuted. This had something to do with permanent waves and with punishment.

In her associations she spoke of her last friend and about her relationship to men in general: "Things happened before I knew it. Why is

O. so important just now? The thought which occurred to me is this: When O. returns, we want to make a good sexual adjustment."

Psychodynamic Tendency: Heterosexual tendency only.

Prediction: Estrogen.

Vaginal Smear: #2-3.

Hormonal State: Slight decline in estrogen.

There is a possible quantitative difference in estimation. We did not regard this, however, as a partial discrepancy. The patient reported fantasies about her early adolescent love affair and her desire to have a sexual adjustment with O. This could have been evaluated as a sign of withdrawal in fantasy life from actual sexual gratification. When we know the hormonal state, we can easily recognize its signs in the psychoanalytic material, but in making a prediction from the psychoanalytic material we must follow cruder criteria, and so the heterosexual, genital fantasy was regarded as sufficient to indicate estrogen production but not its decline.

JUNE 18. "Yesterday I felt depressed, cloudy. I slept very well last night and I feel better today."

I was in a long train. It was moving. Many people were in the train. I was sitting somewhere, taking care of a number of children. I was concerned about them. My stepfather was sitting two seats in front of me. Opposite to him in the other aisle was a woman. My stepfather was flirting with her, holding her hand. I was aware that my mother was going up and down in the train, very much agitated. She told me she was upset because of what her husband was doing. I comforted her saying this was not serious. But I was concerned also, and I picked up a stone and threw it at him to attract his attention, but that did not make any difference. My mother looked younger and more attractive than she is now. Then another man was flirting with me. I did not recognize him. He had a sandwich in his hand. He gave a woman a dollar before he unwrapped the sandwich.

Associations: "My sister and I had a discussion yesterday about my stepfather who is so upset about the fact that my sister K. is interested in a Gentile. My mother is not concerned at all. But this dream is all tied up with B. I was jealous because he was flirting with other women." The patient lets herself be distracted by the window cleaners outside the building and realizes that she wants to peep.

Interpretation: For the procedure of the psychoanalysis, it is important to note that in watching the stepfather, she projects her own jealousy on her mother. The stepfather's concern with the sister's love affair awakens her infantile jealousy because of her own father's interest in her sisters. But the next dream-thought brings the problem

again to the level of her actual sex desire; the man gives money to the woman. A prostitution fantasy, the desire to receive, is clearly expressed.

Psychodynamic Tendency: Heterosexual tendency; identification with the mother (both she and the mother are rejected by a man, and she is concerned about the care of children); receptive tendency in relation to men.

Prediction: On the basis of the first tendency, estrogen; on the basis of the second and third, incipient progesterone, preovulative. This prediction was borne out first in the vaginal smear of the next day.¹

Vaginal Smear: #2-3-4.

Hormonal State: Increasing estrogen. The progesterone production is detected in the psychoanalytic material twenty-four hours earlier than in the vaginal smear. This deviation was not counted as a discrepancy (see Chapter 7).

JUNE 19. "This morning I awoke with a spell of heavy breathing. I gasped for air. I felt just as I did when I had the temper tantrum in the telephone booth, waiting to get connected with you. After this asthma-like condition, I went to sleep again and had a dream which I cannot tell you; it sounds crazy. It was like this."

The man to whom I spoke—he was the woman to whom I spoke.

The associations go back to an important event in the beginning of her analysis, consultations with Dr. K. She identifies Dr. K. with the analyst and thus discloses the bisexual character of her transference feeling. But this also means that her analyst (mother) interferes with her sexual life, that is, with the transference to Dr. K.

Psychodynamic Tendency: Heterosexual tendency; mother-conflict.

Prediction: Increased estrogen and progesterone.

Vaginal Smear: #3-4-(5).

Hormonal State: Estrogen and incipient progesterone, preovulative. This vaginal-smear finding was even more clearly indicated in the psychoanalytic material of the previous day.

JUNE 20. "I had violent nausea. I had a violent weeping spell. I wept convulsively. I felt caught in my conflicts. I thought over my

¹ This discrepancy shows how rigidly we accounted for the psychodynamic tendencies. The prostitution fantasy in the dream does indicate genital receptive tendency and therefore could have been evaluated as an expression of depreciation or defense against heterosexual tendency. In this case our prediction would have been estrogen. Since the receptive tendency was expressed so clearly in the material, we predicted estrogen as well as progesterone.

whole life from the beginning. At first I was protected by my mother; then I tried to escape. I escaped O. by going to my husband. I escaped my husband by going to other men. I remembered my fear of B., my fear of Dr. K. I wanted to talk to you. I escape from him to you, you protect me . . ." She repeats her conflict: escape from mother to man, and then from man back to the mother's protection because of her fear of heterosexuality. This conflict corresponds to the asthma-like spell of the previous day (French, Alexander, *et al.*, 1941).

Interpretation: The nausea was interpreted as a defense reaction to the receptive tendency.

Psychodynamic Tendency: Heterosexual tendency; dependence; conflict between these two; oral receptive tendency as displacement from genital receptive tendency in defense against it.

Prediction: Estrogen and progesterone; preovulative.

Vaginal Smear: #3-4-(5).

Hormonal State: Estrogen, incipient progesterone; preovulative.

JUNE 21. "My last dream this morning was:"

I was a disgrace to my mother. I don't know how the dream continued, but at the end of it I heard the statement, "The child is saved."

"The dream that I was a disgrace to my mother meant that I was ugly. I was so ugly when I was born that my mother hoped the doctor would kill me. I think in the dream this idea proceeded to another idea—that I could not function as a man; therefore I was a disgrace. My mother wanted a son; I was not a son." The patient continues with uninterrupted associations, beginning with her own birth. It is impossible to summarize all the material brought up in this hour. She emphasizes that she feels relaxed. She repeats her story of being a rejected child. She talks about the Negro, the central figure of her neurosis, the man who, she had imagined, was the father of her brother. She feels that her own child is also a bastard and that she rejects him as her mother had rejected her. "The child is saved" means that her child was saved from her. She thinks of the sexual relation as an attack, an attack against the child who sees it. Because "the child is saved," the sexual relation is not an attack against the child. But she keeps coming back to her guilt about her own sexual life, which might harm her child. These rapid, uninterrupted associations go on as if she were trying to solve all the problems of her life and to reconcile her conflict between heterosexual desires and motherhood.

Psychodynamic Tendency: Conflict between heterosexual tendency and motherliness.

Prediction: Progesterone and estrogen; postovulative.

Vaginal Smear: #3-4-5.

Hormonal State: Estrogen, progesterone; ovulative.

The question may arise, is the material of this session characteristic of the postovulative phase? We had already predicted "estrogen and progesterone" for June 18, 19, and 20 because we recognized that the heterosexual tendency was combined with a receptive tendency or with dependence, the need of the mother's protection. Ovulation was indicated because the patient was relaxed. The flow of associations was quiet, not aggressive, in spite of the disturbing content. The dream represents tendencies of mother-conflict but it was given in such a fragmentary manner that we could not be sure it was produced in a relaxed emotional state. On the contrary, so far as we could reconstruct it from the associations, the first dream-thought expressed fear of the rejecting mother who would kill the baby who disgraced her. The second dream-thought indicated reassurance: "The child is saved." In spite of this second dream-thought, we did not assume that this was a "postovulative dream." But the associations during the psychoanalytic session show us how the patient is trying to solve the problem of her conflict between sexual guilt and motherliness, and of her conflict with the mother. The tendency of the association is to understand the mother and to be reconciled with her. The lack of hostility toward the mother and the wish for reconciliation are the psychodynamic motivations which led us to assume that ovulation had occurred before this psychoanalytic session. (The smear was taken at about 7 A.M. The psychoanalytic session was: 11-12, noon.)

JUNE 22. "I slept well. Today I feel heavy, I look heavy. My dress was tight.² I felt so weak when I came down this morning. I still feel weak. I felt quite close to my husband last night. My arms feel so awfully weak. I remember a dream which I had just after the beginning of the analysis."

A doctor recommended institutionalization because I had colitis, which meant that I had inflammation of the brain. There was something about a child who had fits.

The patient associates to the dream: "I was a jerky, fidgety child. I could not sit still. The child was imprisoned." She says this last sentence with great emphasis as if to indicate how many different connotations this statement has for her, and then she goes on to talk about

² One would readily assume that the patient was influenced by some interpretation in producing such prompt reaction with symptoms of pregnancy to the progesterone phase. Therefore we wish to remind the reader that at the time there were no assumptions and interpretations in this direction at all.

her symptoms after her child was born. She especially emphasizes dizzy spells which were so intense that she had difficulty in walking. The analyst makes reference to her statement that she felt weak this morning and that her weakness and the heavy feeling in her arms and legs were very different from the fidgety child, who felt imprisoned. The patient then continues associating in a somewhat flippant manner which can be interpreted as a defense against her dependence on the analyst.

Interpretation: The symptoms of heaviness and weakness refer to pregnancy; there is indication of a retentive tendency, for her abdomen seems to be distended. The dream had been analyzed previously as her fear of being institutionalized because of her condition during pregnancy. To her this meant imprisonment. The word "imprisoned" is overdetermined; she felt she had been an "imprisoned"—a rejected child, and she thought of a child as being imprisoned in the womb. These feelings about imprisonment repeat themselves again and again during her analysis.

Psychodynamic Tendency: Womb fantasy; pregnancy conflict; retentive tendency. All these represent variations of the same tendency. The transference during this session was interpreted as defense against dependence. The dependence expresses her relationship with the mother, but it was activated by the fact that the analyst had told her about her impending vacation.

Prediction: Progesterone.

Vaginal Smear: #4-5-6; desquamation and aggregation.

Hormonal State: Postovulatory; progesterone dominance.

JUNE 23. "I have pains all over my body."

I was with my son in a store. Suddenly I had a fit, I fell down, my teeth clenched. I had convulsive movements, such as I once saw in an epileptic. During this fit the contents of my purse scattered all around.

Associations: "My son was left alone in a store when I had a fit. That reminds me of my abortion. That was the only time I considered leaving my child." Other associations to the epileptic fit indicate that this signifies an orgasm and repeats the conflict which she had also expressed on June 21, namely, that she feels guilty because she has exposed her son to her own sexual activity. The purse with its scattered contents indicates prostitution tendencies.

Interpretation: The increasing muscular pain was related to her reaction to pregnancy, to her conflict between motherhood and sexuality. The awareness of the vagina indicates not only heterosexual tendency but also increased receptiveness.

Psychodynamic Tendency: Heterosexual and receptive tendencies.

Prediction: Progesterone and estrogen.

Vaginal Smear: #4-5-6.

Hormonal State: Progesterone. Concerning the diagnosis of estrogen in the luteal phase, see Chapters 2 and 7.

JUNE 24. "I was sleepless. I have a skin rash, like German measles. I had a dream:"

It was a reproduction of a scene which occurred in a meeting. I could not tell whether I was one of the workers or one of the children they were talking about. Nobody knew. Then Betty's mother came in and choked me. Somebody helped me, but I did not know what they were doing.

Associations: "When I awoke, the first thing that came to my mind was: 'March 26, 1921.'" Analyst: "What does this date meant to you?" Patient: "I was married in 1921. My child was born in 1926. But in the dream the child comes before the husband. I was very passionate toward my son yesterday. In this dream everything that happened fell into three acts. The third act happened so slowly that I understood. Then I thought I had become a mouth breather because I do not trust my nose. I awoke breathing very heavily and I kept thinking about breathing difficulties. I tried to analyze these thoughts upon awakening. I rejected the nose, because my mother rejected my nose; I could not scent it."

Interpretation: She does not know whether she is the mother or the child; she wishes to be both. When she is the mother, she is better than the real mother. The real mother, with whom she competes, chokes her. This refers to the rejection by her mother, who did not like her because she was ugly and had an especially ugly nose.

Psychodynamic Tendency: Conflict between her wish to be the child and her wish to be mother; dependence on her mother, and fear connected with it.

Prediction: Progesterone.

Vaginal Smear: #4-5-6.

Hormonal State: Progesterone; peak of the luteal phase. (See note above.)

JUNE 25. "I did not sleep well. My heart is pounding now. I am thinking that my child is in my heart. I could be demonstrative in my affection for him." She wants to give a book to the analyst, and recognizes that she also wants to demonstrate her affection for the analyst. Further associations show that the book denotes a common field of

interest with the analyst and indicates the tendency to identify herself with the analyst.

Interpretation and Psychodynamic Tendency: Reconciliation with her own motherhood; reconciliation with her mother; identification with analyst-mother.

Prediction: Progesterone.

Vaginal Smear: #5-6.

Hormonal State: Progesterone; luteal phase.

JUNE 26. No psychoanalytic session. The dream of the night of June 25 and her mood are reported in the analytic session of June 28. "I felt very foggy. I dreamed:"

It was a spell, like an explosion, as if something had shot out suddenly. My legs were jerking. I thought my legs shook because I was a candidate. I felt I was in front of a candy store.

Association: "I had the same sort of sensation that I felt when I dreamed or felt that I was alone with my mother, expecting something, and heard her saying, 'That is enough today.' For most of the night I was awake; the sensation was so irritating that I wanted to tear myself to pieces." Further associations indicate that this feeling of trembling is like that of a terrified child. The fear was connected with frustrating situations, such as examinations, which are identical here with psychoanalysis or with actual oral frustration. Then she connects this feeling with the fear of her frustrating mother. Whether the irritability, the wish to tear herself to pieces, could also be interpreted as a reaction to oral frustration, we cannot decide. She describes herself as behaving like a hungry infant. She reports that after this dream, during the whole day of June 26, she had had an irresistible desire to eat sweets. She mentions a candy shop which she remembers from early childhood. She often dreams about it.

Interpretation: The dream and her behavior express oral receptive tendencies. It is quite obvious that this oral receptive wish, with its feeling of frustration, does not represent a displacement of genital desire but that it originates either in real hunger—which is improbable—or in the dependent passive wish to be fed by the mother (or by the analyst).

Psychodynamic Tendency: Regression to oral level.

Prediction: Diminishing progesterone.

Vaginal Smear: #5-6-7.

Hormonal State: Diminishing progesterone.

JUNE 27. No psychoanalytic session. She still feels irritable, she has a craving for sweets, and she confesses her anxiety which she sum-

marizes in one sentence: "The child is a monstrosity." This had been one of her fears during pregnancy. On the basis of this material we assumed that the hormonal state was the same as on the previous day.

Prediction: Decline of hormones.

Vaginal Smear: #6-7-1.

Hormonal State: Low hormone level.

JUNE 28. She reports that material which we have already referred to as belonging to June 26 and 27. "I feel heavy today, and I feel a pressure on my stomach. Yesterday I felt anxiety—that my child is a monstrosity. I loved dogs very much before I had my child. My husband once brought me a dog. My mother did not like dogs. A woman in the neighborhood said that our dog scared her child and she cursed me saying that I should not have children; I should have only dogs. I was scared; later I laughed about it. But after the child was born I could not stand to have dogs near me." Then she continues, "When I was a child I was extremely curious." In rapid sequence she tells many memories of her childhood: the Catholic School; the story about the candy shop; an experience with a blind man. "I was very sympathetic with the blind. I met a blind man. I wanted to be friendly to him. Once I took him to a reception, and from that time on he called me up every day. He asked me to go with him to the theater. I did not like it, but I thought I had to go. He did not tell me where we were going, and so I was afraid, but I did not want to admit it. Then I thought I would have to take him home. I could not get rid of him. I was certain that he wanted to rape me. I took him to his door and then I turned and ran away—ran home. I did not answer the telephone for a long time."

Interpretation: The story about the dog, which is similar to many other rationalizations of her anxiety during her pregnancy, belongs to the emotional material of the previous day. Then the patient recalls sexual experiences and fears of her early childhood. Her memories are mostly sexual in content. The disagreeable experience with the blind man indicates that she had sympathy for him because she thought blind men were asexual. The approach of this man made her realize suddenly that he was not a castrate, and she feared his revenge. Since the recollection of this experience indicates a fear of sexual attack, we assume that during this session heterosexual tendency was manifest.

Psychodynamic Tendency: Heterosexual tendency; oral regressive tendency and fear of pregnancy.

Prediction: Decline of progesterone; incipient estrogen; premenstrual.

Vaginal Smear: #6-7-1.

Hormonal State: Low hormone level. We are not surprised that the premenstrual estrogen production is not indicated in the smear because we have the impression that the heterosexual tendency was just beginning to assert itself during the psychoanalytic session.

JUNE 29. The patient complains of her hoarse voice. She talks of early school experiences in a Catholic school. She seems to take pleasure in using language full of Catholic symbolism. She then speaks of Dr. F. It becomes clear that this confused and impersonal account of the Church serves as an escape from the heterosexual fantasies about Dr. F. which she did not wish to tell the analyst, and that the mention of the Church served also as a punishment for her sexual guilt.

Interpretation and Psychodynamic Tendency: Heterosexual tendency.

Prediction: Estrogen; premenstrual.

Vaginal Smear: #7-1-2.

Hormonal State: Early premenstrual, estrogen.

JUNE 30. No psychoanalytic session. The patient does not report anything about this day. She also failed to take the vaginal smear.

JULY 1. The patient comes in a resentful and angry mood. She starts with reproaches against Dr. K., whom she had formerly consulted. She recalls every scene and all her emotional reactions to Dr. K., who made her feel that he was very much interested in her.

Interpretation: These associations and her anger toward the analyst indicate that she is trying to express her great heterosexual interest in Dr. K., her attachment to him, which, the patient believes, was disturbed by her present analyst. Further associations show that she wants to be loved and accepted by her analyst, that she is afraid she may be pushed aside by the analyst like a bothersome child.

Psychodynamic Tendency: Heterosexual tendency; dependence.

Prediction: Estrogen, low hormone level (?); premenstrual reaction.

No Vaginal Smear.

JULY 2. The patient has had a very disagreeable experience in her work situation. She feels as if she were being punished, and is defiant. But after a short time she brings associations and fantasies in order to avoid the reality situation. She is anxious about the analysis, for this is the last session before the analyst's vacation. She begins by saying that her mother used to tell her that she had learned to walk very early and once when she was about nine months old she walked

out of the house and was lost. Later she was lost again. "I am a lost soul . . . I am in six places at the same time—so many thoughts and memories come." She relates other childhood experiences and comes to her early fears of boys. The last associations of the hour are concerned with her mother. "I feel my breast, my mother's attitude toward nursing. She liked to nurse her children and did nurse them for a long time. I thought breasts were dirty. I was ashamed of them."

Interpretation: Fear of separation from the mother. Her awareness of her breasts may also be a reaction to the analyst's leaving her. It could also be induced physiologically by premenstrual swelling.

Psychodynamic Tendency: Dependence; defense against the wish to feed someone.

Prediction: Premenstrual; low hormone level (?).

Vaginal Smear: None. Menstrual flow started on July 3.

This cycle is short, only 24 days. During the cycle, the patient prepared 19 vaginal smears; psychoanalytic material was available for 21 days. Both smear and psychological data were available for only 18 days. Of these data, complete correlations were established for 16 days. There was one partial and one complete discrepancy.

Although this cycle is not complete, it shows the typical course of a cycle and illustrates the technique of interpretation and prediction. Estrogen developed gradually. The preovulative phase was indicated in the psychoanalytic material earlier than in the vaginal smears. Ovulation was recognized by an emotional relaxation and by an increase of libidinous feeling. Progesterone production declined after four days, as was indicated by a regression of the psychodynamic tendency to an infantile, oral level. The premenstrual phase was characterized by emotional excitation and by renewed indication of heterosexual tendency, which, however, decreased during the last premenstrual day, when oral dependence—the problem: to feed or to be fed—again characterized the psychoanalytic material.

It is characteristic of this patient that psychodynamic material corresponding to estrogen production appeared to be on a genital level of sexual maturity; pregenital material appeared only when the hormone level was declining or low; symptoms were exacerbated during the progesterone phase.

Though one example should suffice to demonstrate our technique of interpretation, we are presenting another cycle in order to illustrate what we call "the individual equation" in the evaluation of psychodynamic material. For this purpose we choose the first cycle of Case XI. The case history is in Chapter 9. The psychoanalytic treatment of this patient began on October 5, 1937; her participation in this

research did not begin until April 25, 1938. The cycle presented here is the first studied and belongs to the eighth month of her analysis. The analyst is a man.

Case XI

APRIL 25. "I don't feel like talking today. I hoped I wouldn't have to come. All day yesterday I tried to think of other things. If I could talk, I would feel better." The patient then tells in great detail that on Saturday she had a quarrel with her fiancé. She was upset and ashamed. After the quarrel she could hardly control her rage; she suffered from a severe headache and thought she would have to break up with her fiancé. She complains that he does nothing about marrying her. She is also ashamed because of her nagging; she is sad and full of self-reproach. "I start all these quarrels. It is my fault, I am petty . . . I am not broad-minded enough for him . . ."

Interpretation: The patient was demanding and hostile. She felt guilty and turned her aggression toward herself.

Psychodynamic Tendency: Hostility turned toward self. Narcissistic withdrawal characterized her mood. This should have indicated progesterone production, but preoccupation with the actual quarrel took so great a part of her associations that material characteristic for progesterone did not appear.

Prediction: Low hormone level.

Vaginal Smear: #5-6-7.

Hormonal State: Decline of progesterone.

APRIL 26. She is still depressed. She envies other people who get along well; she feels guilty because of her "wrangling and bickering" about everything. She argues with herself that she should be able to quiet her feelings and to decide whether to live alone or not. She complains that she cannot be proud of her fiancé, but she under-rates herself also. "He is so fine, so good, he took care of me when I was ill, . . . I am so sensitive, I am hurt by every word. His family is frank, independent, sarcastic." She complains that in the home of her fiancé the tablecloth is always messed up, the family is always noisy at the table, and she gets nauseated. "Yet who am I? They are better than I." A letter from her fiancé has hurt her again. She had been irritable and decided to be indifferent to him. She complains also about her past. "I missed out, when I was sixteen or seventeen, when a lot of kids were having fun." But she does not like her present situation either: "I am fed up—no future, no fun. I am lacking something. Just to go along and not marry—it looks as if it might take

years and years but even then it would be all right if we could get along together. I am so impatient that I would only make him more unhappy. If only I would not always compare him with someone else . . . I try to understand, but I end up where I started. . . ."

Interpretation: This is but a fragment of a very detailed record. It suffices to demonstrate the patient's mood, which is depressed. The material shows clearly her need for attention, her dependence on her fiancé, but no heterosexual desire or attachment is manifested. There is a tendency to narcissism, to be better than others. The hostility which she expresses in nagging others she turns toward herself with self-reproaches.

Psychodynamic Tendency: Hostility turned toward self, dependence.

Prediction: Low hormone level.

Vaginal Smear: #6-7.

Hormonal State: Low hormone level.

APRIL 27. She feels less upset today, but still "dumb and inferior." "In the office I fool around with little things and I cannot do what I should. Yesterday I had a hectic afternoon and I just could not remember things. I felt inferior and was afraid to be with people, and I could not decide what to do about my fiancé either, so I went to bed and could not sleep. My mind went so fast from one thing to another as if I were going crazy. My skin itched, and last night I had a few small hives on my arms, chest, stomach, and chin." She continues to complain about her insecurity, her relationship to her fiancé, her tendency to punish herself. When the analyst asks her about dreams, the patient recalls that just before awakening she had the following dream:

I had a dollar bill in my hand, and I did not know whether I was giving it to the girl who is about to arrive from Mexico and is bringing me some Mexican things, or whether I was happy because I recalled that she owed me a dollar, so I would not have to pay her for the things.

Associations: "Why did I dream this, when other, more important things were on my mind? But I was very happy in the dream." She adds, "But now I feel depressed, the way I used to feel before my period; now it is not before, but after my period." As on the previous day, she proceeds to speak of her guilty feelings.

Interpretation: Her associations present no new aspect of her situation. It seems, however, that her emotional insecurity has increased, for today she feels she must not be reconciled with her fiancé, and she is tense and irritable because of this conflict which originates in her

dependence and narcissism. The dream shows clearly that she wants only to take, not to give.

Psychodynamic Tendency: Dependence; inferiority feeling; receptive tendency.

Prediction: Low hormone level.

Vaginal Smear: #7.

Hormonal State: Low hormone level.

APRIL 28. The patient is somewhat animated, saying that last night she had several dreams; she remembers three of them.

1. I was with my fiancé in a room, and Mrs. L. was there too. I was talking very seriously to M. [fiancé] about his not getting a job and not getting along well with me. Mrs. L. gave me some advice, and I told her I appreciated that she had had more experience than I, but this was a problem I must work out myself. M. said impulsively: "Let's marry right away and see how it works out." I said yes at first, and then I began to think, and said I could not get along on my salary.

2. E. [girl friend] had been married and divorced. At first I was shocked, then glad, because at least she was married. I was not surprised that she was divorced, because she is so difficult to get along with.

3. A new girl in the office came up with her suitcase to see her lawyer because she was in the process of getting a divorce.

Associations: "Mrs. L., giving advice, is connected with my analyst. I am anxious to get married. Yesterday evening I debated with myself whether I should phone M. and ask him to come over. When I came home, I found a message that he had called." She talks about E.'s possible divorce; then about her own feelings of being unjust and unfair to her fiancé.

Interpretation: In both dream and associations, she admits that she is eager to marry, to be taken care of, but at the same time she is reluctant to marry, because she does not have enough economic security and because of the humiliation of a possible divorce.

Psychodynamic Tendency: Dependence, heterosexual tendency.

Prediction: Incipient estrogen.

Vaginal Smear: #1-2-3.

Hormonal State: Incipient estrogen.

APRIL 29. The patient had finally decided she wanted to see her fiancé and had telephoned and met him. No real reconciliation took place because the patient was again irritated by his "crudeness" and she "froze up."

Interpretation: She is dissatisfied with her fiancé because she compares him with her analyst; she feels frustrated.

Psychodynamic Tendency: Heterosexual tendency, diminishing (?).

Prediction: Estrogen, diminishing (?).

Vaginal Smear: #1-2.

Hormonal State: Slight decline of estrogen.

APRIL 30. No psychoanalytic session. No smear.

MAY 1. No psychoanalytic session. No smear.

MAY 2. She feels well today. Reporting about the week end, she says: "Yesterday I heard girls talking about their husbands, lawyers or professors, and I felt pangs of envy." She recalls her feelings about her father. She had never been able to talk with other girls about him, for she was not proud of him. "Once M. gave a speech. He did very well and I was proud of him, but there he was—so fat, so badly dressed, his face red; he never keeps his hair trimmed back . . ." She continues with criticism; every detail hides a comparison with her analyst. "And then I get miserable because I am ashamed of myself for thinking these things. I wonder what I can expect. Who am I? I can't go out and pick out someone I want, someone well dressed, with hair trimmed, etc." Then she expresses her guilt because of her demands. "I cannot expect to overcome them. I know I am not really in love with him; I am only attached to him, and he cares so much for me."

Interpretation: Positive transference to analyst, guilt because of this and because of her demands on fiancé.

Psychodynamic Tendency: Heterosexual tendency; dependence.

Prediction: Low level of estrogen.

No Vaginal Smear.

MAY 3. The patient feels irritable. "I do not want to be obstinate but I do not know anything to talk about. Probably it is the old tendency to be dependent, but it seems like great anxiety." Comparing herself with other girls last night, she thought: "How does one progress? How can one be efficient? . . . I am so exasperated I could almost scream because I want to do something about it and I cannot. I am not angry, I am exasperated. Everything is just a big question mark. I want to say something and then some inner force stops me. That is my nature." She wonders what the analyst thinks about all this. "I know what I want from my analyst, but I cannot express it."

Interpretation: The patient was unusually tense. She felt frustrated and helpless. Analysis of this masochistic attitude shows that her increased heterosexual tendency is directed toward the analyst and

that she reacts to it with anxiety. The same tendency had been expressed in the material of the previous day. Now when the desire is even more intense, she does not have the courage to express it. Her behavior in this session, her inability to speak directly about her desires, is like the behavior of an adolescent.

Psychodynamic Tendency: Increased heterosexual tendency; reaction to frustration.

Prediction: High level of estrogen.

Vaginal Smear: #3-4-5.

Hormonal State: Estrogen and incipient progesterone. This represents a partial discrepancy because progesterone was not diagnosed in the psychoanalytic material.

MAY 4. "I had a dream last night."

I was a little girl and had on a white chiffon dress, flimsy and floating. I was in the woods, in a mist or fog. White air was all around. At first I was running through the woods after a bright-colored butterfly, and every time I nearly caught it, it would slip away. Then the butterfly changed to a person in a white formal chiffon gown, floating through the air, and I went after it; I would think I caught it in my fingers, but then it would be gone. It slipped through my fingers. It was so close, and I could not get it. I was crying in the dream from exhaustion and disappointment.

Associations: "When I awoke this morning I felt tired, too, as if I had been crying, although the pillow was not wet as it sometimes is. I associate this dream with dissatisfaction, with wanting to do something. I am dissatisfied that I have not outgrown the dreams which I used to have as a youngster: following a rainbow, a butterfly, this or that. It sounds melodramatic, but it is like someone wanting to cry or to wail out loud, only I do it within. I just feel choked up." The patient then talks about her ambitions and, brought back to the dream by the analyst, she associates to the woods: "I liked going into the woods very much. Woods were near our house and I liked to get away from the house, from the people, and to lie there alone, so peaceful." Her associations to the butterfly were, "I used to run after them as a child; I liked them; I did not want to hurt them, only to catch them. Lying in the woods I often wished I were a butterfly—I could fly, I'd be so pretty, I would not have to think or feel upset or worried, or fear lickings, or have to work if I were tired. And the idea that a butterfly, once a caterpillar, turns into something so beautiful—that is symbolic. In reality, it is probably that I am running after something that I want. I think this figure I was chasing may have been my mother. When I had these dreams as a child, I wondered whether my

mother was in heaven, whether she was watching everything that I did, whether she took care of me. And when I had a narrow escape, I thought it was mother who had helped me. But then why did she let me go through all these things? Why did she let me be beaten by my father and my stepmother? Then I was confused and I cried as I did when I had had a beating and had been sent upstairs. I would lie in bed and cry and cry and cry. I cried so hard that my stomach and throat and even my head hurt from trying to suppress the sounds. I would have all the emotions and have to suppress them. And I often felt such hopelessness. A dream like this is as though I were actually going through something like that, like those feelings of having been there before. I am a little upset now from talking about it; I could cry easily. It sounds very dramatic, but there it is."

Interpretation: The patient talked with more genuine emotion than on the previous days; she talked fluently and without interruption. The material cited is only a small part of the record. The dream and her associations to it afford a clear interpretation of the psychodynamic change which had occurred in the last twenty-four hours. We recall that on the previous day the patient had been inhibited in expressing her feelings toward her analyst. She had felt frustrated, but the frustration had not caused an increase of anger, as we had observed earlier in this cycle. She is like an adolescent in expressing her love; the dream is like a fairy tale, like a dream of children. The first dream-thought expresses her wish to be a beautiful, angelic little girl; the second repeats her pleasure in being alone in the woods, a place of peace and protection.³ Here we see the tendency to withdraw. It represents both the wish to be protected and the wish to give up the struggle for the man. In the past this man was the father, as we see in her associations to the dream; now it is the analyst for whose love and attention she is struggling, and she longs to escape from the frustration. The next dream-thought tells us that she wants to catch a colorful butterfly, for her a symbol of beauty and achievement. This symbol is overdetermined and probably represents all her frustrations. The last dream-thought changes the butterfly into the image of her mother, her fairy-mother in heaven, who died when she was two years old. If her life remains hard, if she cannot catch the butterfly or turn into this beautiful creation, then she wants to find her dead mother and be like her. Both the first and last dream-thoughts express the wish to be protected, to withdraw to the mother, and to be like her. The dream expresses reaction to frustration of her heterosexual desire and her ambitions, and the wish to be relieved of frustrating experi-

³ In other dreams the same wood represents a place of heterosexual danger, and then is designated in her associations as a place where she had experienced great fear.

ences by being protected by the mother or becoming like her. Since all these desires remain ungratified in the dream, she has only one refuge—her tears of self-pity.

Psychodynamic Tendency: Frustration of heterosexual tendency; dependence; narcissism; wish to identify with (dead) mother in a symbolic way. We should emphasize that these latter tendencies cover up the frustrated heterosexual wish.

Prediction: Progesterone, estrogen; ovulative change.

Vaginal Smear: #4-5.

Hormonal State: Estrogen; increasing progesterone; luteinization of follicle.

MAY 5. The patient talks at first about actual things, about the political situation in Europe, and about her sister who is married and has a baby. This baby is sick. She talks about her hated stepmother to whom she feels she should send a Mother's Day card. She has a conflict about being hypocritical. She feels sentimental about it; she has chosen a very pretty card. Then she talks about her friends. She has just heard that a girl friend was hit by a car. "This girl is always in trouble. I used to be this kind of person, too. I used to want to be hit; I even went out of my way to have it happen, but it never did. I cannot see why it did not happen when I wanted it." She recalls that she had very clear dreams the night before, but she has forgotten them. She can remember only the following little fragment:

I was talking with one of the girls. I was pregnant and I discussed this with her. I used the word "*obstician*." My girl friend told me that I misused the word.

Associations: "I recall the dream I told yesterday: that I wished to be a little girl. Going home I passed an art store. There were two pictures in the window, the kind one puts in the nursery: a wooden soldier, and a pink elephant; I wished I had a child. I would like to have a boy and a girl and a nursery. I would fix it up with pictures like that." Analyst: "*Obstician*?" Patient: "The girl in the dream told me different ways to pronounce it." She continues to talk about her inferiority feelings and her fears in classes. "When I try to use nice words with people, I get petrified about using them wrong or pronouncing them wrong, as at the office yesterday."

Interpretation: At first the patient talks about seemingly superficial matters, but she is really discussing her relationship with her sister. She feels obliged to take care of her baby or to worry about him. Then she discusses her obligation to the stepmother. She recalls her suicidal tendencies and fantasies, caused by her conflict with her stepmother.

This conflict, which is so close to the problem of whether to be a mother or a child, brings about the recollection of a dream of the night before, in which she was pregnant and self-conscious and ashamed of it. The associations show that her wish to have a child is a continuation of her fantasy to be a loved and indulged child. It is obvious from the manifest content of the dream and from the associations that she expresses no heterosexual tendency; she does not mention a man at all; she does not talk, either directly or indirectly, about the analyst.

Psychodynamic Tendency: Pregnancy wish.

Prediction: Progesterone.

Vaginal Smear: #5, aggregates.

Hormonal State: Progesterone dominant.

MAY 6. No psychoanalytic session.

Vaginal Smear: #5-6.

Hormonal State: Progesterone.

MAY 7. No psychoanalytic session.

Vaginal Smear: #5-6.

Hormonal State: Progesterone.

MAY 8. No psychoanalytic session. No vaginal smear.

MAY 9. The patient begins by relating the following dream of the previous night.

It was something about a middle-aged couple, man and wife. And there was something about another woman, an ex-wife. She came in one evening and this man's wife killed her—or something like that—in one of the rooms. Meanwhile another woman came in too. The real wife resented the ex-wife's coming for alimony; she was demanding and made trouble. Meanwhile I was across the street, talking to a middle-aged couple. The woman was very gossipy. She saw the light across the street go on and off; she became curious and tried to look at a piece of paper. I tried to stand in the way so that she would not see it because it belonged to the murdered woman. Then I was on a train and everyone had been questioned about the murder.

Associations: "It was a very tiring dream. It is a mixture of things. I saw a movie, very crazy. A man was put in jail by four of his wives for not paying alimony. Why should I dream such dreams?" She reports in great detail that she had cleaned up the kitchen in her fiancé's home, and instead of being complimented for her work she had been criticized by the fiancé's sister; she had felt very much hurt

and afraid. Then she talks about her office. The analyst finally asks her about the dream, which she is obviously avoiding. Although the dream is evidently a repetition of childhood experiences, she does not associate anything to it but the movie. When the analyst tries to discuss the dream on the level of the transference, the patient denies any connection with the analyst and finally says, "I wonder why I don't dream about Dr. T. [woman-analyst who had instructed her in the taking of vaginal smears] because every morning when I go through this procedure I wish I did not have to do it. I saw her just once, and that is the only feeling of resentment I can think of in connection with the Institute."

Interpretation: Knowing the life history of this patient, we can easily interpret this dream. She is observing what the stepmother is doing. She is identified with her own mother, that is, with her father's first wife, whom the stepmother murders out of jealousy. The case history shows that it was only after three or four pleasant years that the stepmother became cruel to her. In the dream, the patient herself is being mistreated by the stepmother. She behaves in the dream as she often did as a young girl when she tried to protect her parents, especially her father, against the gossip of the neighborhood. It is noteworthy that the patient shows great resistance to recognizing the elements of this dream, although those memories are conscious and have often been repeated with satisfaction and self-pity. The resistance may be explained by the fact that the actual motivation is the patient's hostility toward her fiancé's mother and sister, both of whom represent the "first wife." They make demands on her fiancé, and she "could murder them." She cannot transfer this hostility to her analyst, so she chooses women who have given her cause for annoyance.

Psychodynamic Tendency: Hostility; aggression toward mother-substitute; defense against her own hostility.

Prediction: Diminishing progesterone; low hormone level.

Vaginal Smear: #6-7-8-1.

Hormonal State: Low hormone level.

MAY 10. The patient lies on the couch silently for eight minutes. When the analyst asks her to talk, she says that words come to her throat but she cannot speak. She begins to talk about how embarrassed she was when she saw Dr. T. in regard to the vaginal-smear test. She is afraid to take smears; she thinks that Dr. T. will think that she is a ninny—out of date. She then tells a dream of the night before, introducing it by saying that she knows a very beautiful girl who wants to be a dancer but has hurt her back.

This girl was a dancer and an actress. She was in Hollywood, and I was with her. Her mother was also there, some place. This girl—so slender and beautiful, and I so fat—were going together to some affair. I did not have the right things to wear, and felt miserable. She decided to wear a sweater and skirt, and even then she was cute. I thought how proud her mother must be of her.

Associations: "I suppose it shows my envy of her beauty and her ability to dance. I always wish I could look like that. It must be an indication of a great deal of envy. I envy the girls who have lots of money and nice clothes. Yesterday I went out to look for a one-room kitchenette apartment. I looked at places for half an hour, and I was depressed because people live in such awful holes. The last place was too expensive. In the dream, the girl lived in a big, beautiful home like those in Hollywood." Answering the analyst's questions about the transference, the patient says, "Hollywood, pictures, clothes, beautiful girl, envy, and the wish to have these things." There was no man in this dream, just her mother, herself, and the crowds that came to see the première. She talks about Dr. T.; again she is afraid of being punished by her.

Interpretation: The patient recognizes her envy of the beautiful girl. She envies her beauty and her material things, but does not see that the admiration for this girl represents the tendency to identify herself with the beautiful girl, to be able to exhibit herself and to be admired. She is aware of her inferiority, and so she identifies herself with the mother of the girl, who can have the gratification of being proud of her. Her fear of Dr. T. shows the continuation of the same mother-conflict expressed in the material of the previous day.

Psychodynamic Tendency: Hostility toward the mother; fear of the mother; homosexual tendency; narcissistic identification; exhibitionistic tendency; inferiority feelings, "negative narcissism."

Prediction: Low hormone level, estrogen and progesterone; premenstrual. The prediction, premenstrual, is confirmed by the slide of the next day.

Vaginal Smear: #7-1.

Hormonal State: Low hormone level.

MAY 11. She feels angry and resentful; she cancels the psychoanalytic session.

Vaginal Smear: #7-1-2.

Hormonal State: Increasing estrogen; premenstrual.

The premenstrual phase of the cycle had already been recognized in the dream, 24 hours earlier than in the slide, although it is uncom-

mon for a woman to have a libidinous, narcissistic dream as an early sign of premenstrual estrogen production.

MAY 12. The patient complains that she has so much rush work to do in the office. She tells the following dream of the previous night.

J. [a girl in her office] was taking shorthand. It was not satisfactory. I was angry at her and thought it was time to fire her. In another part of the dream Mrs. G. said that a girl who works for her was not good at the beginning, but now she is doing better.

Associations: "Just the other day one of the supervisors said that I am so good I should have J's job. But I am afraid I don't have the background for it. I am petrified when I have to talk to people." She continues talking about the office and how much she has to do. She tells of little jealousies among the girls. She describes her own reactions as "boiling inside" and continues: "If I am once hostile to someone, I never like them any more." She recounts neurotic troubles of other girls and explains her dream by connecting it with the dream told in the previous session and with her anger toward her fiancé's sister. "Now I realize for the first time that I have trouble with women and girls, that I have always had to suppress a lot of anger and dislike. I can see it now. I am shy with men, but I have never felt resentment toward men as I do toward women."

Interpretation: The underlying motivation is still anger, envy, jealousy of other girls, and ambivalence toward mother-substitutes. She wants to please them because she is afraid of them. Because she is not embroiled in her own feelings, she has some insight into her hostility.

Psychodynamic Tendency: Hostility toward women; sibling rivalry.

Prediction: Low hormone level.

Vaginal Smear: #7-1.

Hormonal State: Low hormone level.

At this time the patient was actually given a more important job in her office which kept her so busy and preoccupied that she canceled the psychoanalytic sessions for several days.

MAY 13. No psychoanalytic session.

Vaginal Smear: #7-1.

Hormonal State: Low hormone level.

MAY 14. No psychoanalytic session.

Vaginal Smear: #7-1.

Hormonal State: Low hormone level.

MAY 15. No psychoanalytic session.

Vaginal Smear: #7-1.

Hormonal State: Low hormone level.

MAY 16. No psychoanalytic session.

Vaginal Smear: #7-1-2.

Hormonal State: Increasing estrogen; premenstrual.

MAY 17. No psychoanalytic session, but the next day the patient complained that her menstrual period had begun on this day. She had a terrific headache. She was so nervous that she shook all over, and when she came home from the office, she could hardly stand up. This increased "nervousness" was caused not only by the start of menstrual flow but also by a scolding she had received in the office.

Vaginal Smear: #7.

Hormonal State: Low hormone level.

MAY 18. She complains again of extreme nervousness. She had been so nervous last night that she was afraid she could not sleep, and so had taken one aspirin after the other—at least eight tablets. After a good cry she felt better. But still she could not sleep; she walked the floor, smoked, tossed in bed, and felt bad about her work. "I felt so cowardly, and I got to thinking it is so silly to go through life like this. I have to die sometime anyway; I'll get it over now. Then I was afraid. It was about five in the morning when I went to sleep, and then I had a funny dream:"

It was raining and I ran through the woods, almost crying, and screaming that I had to find out what I was running after. Then I was a little girl again, running—almost exhausted—and saying over and over again that I must find out what I was running after. I came to a dark place and there was an owl with eyes flashing. It had on a cap and gown like a college professor; and it put out its claw as if to say to me that I never get wise. A whole stack of books was there, and a hole went down through the stack. I peeped down and could not see the bottom, and then I cried and cried because I could never read all those books, I could never be educated.

Associations: "I cried in the dream and I cried when I woke up . . . Such a dream is so clear. I thought about this dream all morning. It is the first time that a dream has ended with my finding the thing I was running after. In our school we had a picture of an owl with books beside it, in cap and gown." She tells about her desire to read, to learn, to become educated. She compares herself with other girls, how much harder her youth was than theirs. "Last night when I thought of suicide, I thought I would let Mrs. M. know so that

she would feel sorry. When I was a child I was thinking how sorry I would make them feel if I committed suicide. I have not outgrown this. Sometimes I wonder how long a person's mind can hold up under such a strain. I should not be like this."

Interpretation: The dream can be explained as a reaction to the scolding at the office. It expresses her desire to be educated, a conscious ambition, a desire of her ego. We see that she uses the same symbolism to express her ego-strivings that had served to express her desire to withdraw in the dream told on May 4, which at that time represented a reaction to libidinous desire. She cried because she felt frustrated and wished to be pitied.

Psychodynamic Tendency: Ego-drives; frustration; hostility.

Prediction: Low hormone level.

Since the patient did not prepare smears during the menstrual flow, we do not have correlations for this period. We present a short summary of the menstrual period, however, since the psychoanalytic material develops so clearly and can be used as a basis for comparison with the psychological material of those days on which we have comparative data.

MAY 19. "I am in much better spirits today. I had a good night's sleep." She talks about her feelings toward her father and her sister. "I don't envy my sister any more, as I did when a child. The only thing I could envy her for is her husband, who is better looking than M. Otherwise I would not trade places with her. M. has a stronger character, more understanding, and is more broad-minded." She continues talking about quarrels with her sister, showing how much better the patient is. Her associations turn to her father, and she again expresses her feelings of being ashamed of him and of wishing to protect him.

Interpretation: We see that the patient begins again to compare her fiancé with other men; this is almost the only expression of her interest in him. For many days she had not mentioned him or any other man. She also repeats her conscious attitude to her father, which always covers her deeper attachment to him.

Psychodynamic Tendency: Heterosexual tendency.

Prediction: Incipient estrogen.

No Vaginal Smear.

MAY 20. The patient talks in her usual way about her complaints, that she is not good at work, that she is better than many others, that she is so extremely sensitive to criticism, a fact which she attributes to the cruelty of her stepmother. She goes back to petty details of her office life. She mentions, however, that she feels quite well today.

Interpretation: This is a superficial account of her actual life situation. Although we are able to explain all the reactions which she reports in terms of her personality structure and her life history, we do not feel that these associations reflect an actual emotional reaction on this day, but rather that they cover up a lack of emotion. For this reason we do not state a psychodynamic tendency.

Prediction: Low hormone level. Our predictions for May 18, 19, and 20 cannot be tested because we had no smears for these days.

In this cycle of Case XI, April 25 to May 23—28 days—the patient prepared 19 vaginal smears; for the same period, 15 psychoanalytic sessions were reported. There were only 11 days, however, in which both psychoanalytic material and vaginal smears were available. While we dealt only with these 11 days in our statistical evaluations, it is apparent that the material is sufficient to provide us with a good picture of the whole course of the cycle. The cycle began with low hormone level on April 25. After three days, incipient estrogen production was noted. On the ninth day, estrogen reached its peak and the smear was like a preovulative smear except that the estrogen level was lower than usual for ovulative cycles. The next day, the tenth, both estrogen and progesterone were found, the latter increasing. Thus the luteinization of an unruptured follicle was assumed. There was a progesterone phase from the eleventh to the fourteenth day, and from that time the hormone level was low, except for very slight increase of estrogen on the seventeenth day, which indicated the early premenstrual phase. The menstrual flow started at low hormone level and probably remained at that status. All these variations of hormone production can be detected in the psychoanalytic material. There was one partial discrepancy: on the ninth day of the cycle, when progesterone was not predicted in the psychoanalytic material. We had a strong impression of progesterone production on the following day, the tenth. This partial discrepancy might be explained in this way: During the psychoanalytic session of the ninth day, the patient could hardly talk, she felt so choked by her frustrated emotions directed toward the analyst. While this much could be interpreted as heterosexual tendency, further interpretation was not possible because the material was not sufficiently articulate.⁴ The other predictions were borne out by the findings of the vaginal smears. The premenstrual reactions were evidenced in the psychoanalytic material one day earlier than in the smear. This, however, corresponded with our expectations.

⁴ We have already discussed the criterion by which we recognize the fusion of the heterosexual tendency with increased receptive tendencies. In Chapter 7 we shall discuss why we omit predictions of progesterone when the receptive tendency is not expressed by emotional manifestations which are recognizable by means of psychoanalytic interpretation.

Though this record of two cycles is given in an abbreviated form, it is sufficient to show the great difference between the personality structure and the emotional manifestations in the two cases, and to demonstrate how differently we evaluate psychoanalytic material for the purpose of hormone prediction. Case I is a mature woman whose sexual desire is expressed directly as genital wish. Her mother-conflict is expressed by the two sides of the problem: a struggle with her mother and a struggle to reach her own motherliness. The psychological material of Case XI shows an adolescent type of individual whose heterosexual attitude is chiefly narcissistic, not genital; the relationship to the mother is purely dependent. Even her relationship to a child is narcissistic; she identifies herself with the child. Thus in Case XI we recognize estrogen and progesterone production through an emotional attitude of anxiety and dependence, respectively, attitudes which in Case I would indicate a low hormone level.

Summary and Discussion

We have presented the psychoanalytic material and its interpretation, the predictions, and the corresponding findings of the vaginal-smear, basal body-temperature techniques for the course of two cycles. It is possible that objections will be raised that this study does not present a verbatim account of all the available material; that we have summarized some associations and have omitted others; that we have selected from the material what we thought would fit into the cycle and have neglected what would have been confusing. This is true, but we feel safe in answering that every psychoanalyst readily differentiates between the emotionally charged expression of patients and the superficial material which fills the gaps during psychoanalytic sessions. A verbatim record would require such detailed discussion as to be impracticable, nor would so minute a presentation serve our purpose.

In this chapter, our intention was to illustrate the following points:

1. We do not study the sexual cycle as a unit; we evaluate the psychoanalytic material day by day, comparing the emotional manifestations of a given day only with those of the previous and the following day.
2. The focus of our interest is on the actual feelings of the patient, her affective sensations, worries, concerns, love, and hatred. The material which we evaluate for the purpose of predictions is conscious for the patient. The anger, the sexual urge, the fear of frustration, for example, were conscious reactions in the first cycle of Case I, just as the dissatisfaction, the grudge toward other girls, the nagging attitude toward the fiancé, and the longing for the mother's protection and for

a better life were conscious feelings during the first cycle of Case XI. Emotional responses of the patient are revealed during the psychoanalytic session through verbalization and by facial and other pantomimic expressions. All these, especially verbalization, enable us to analyze the motives of emotions.

3. The material presented here illustrates our contention in Chapter 5, namely, that the interpretation of the psychoanalytic material on a given day may be expressed by one or by several psychodynamic tendencies, and that the correlation to one hormonal effect may be defined on a given day by one psychodynamic tendency and on another day by several. The limited material of the cycles presented does not illustrate all the variations, but it suffices to show how we evaluate the various psychodynamic tendencies in relation to one another in making predictions of the quantitative and qualitative variations in hormone production. Examples: In Case I, Cycle I, June 11, there was one psychodynamic tendency—the heterosexual tendency—motivating the material, and so estrogen was predicted. On June 18, three psychodynamic tendencies were stated. The first, heterosexual tendency, represents the estrogen correlation; the second and third, identification with the mother and receptive tendency, indicate progesterone correlation. In Case XI, Cycle I, on April 26, two tendencies were stated, dependence and hostility turned back on herself. We evaluated these two tendencies as manifestations of a regressive tendency, and we predicted low hormone level. On the following day, April 27, we listed three tendencies, all of the same regressive character: dependence, inferiority feeling, and receptive tendency. Thus again, low hormone level was predicted. On April 28, heterosexual tendency and dependence were stated. We estimated the estrogen correlation as the reaction to the incipient stimulus, while the dependence represented the continuation of the feelings of the previous day. On May 9, the following psychodynamic tendencies were stated: hostility (aggression toward mother-substitute) and defense against it, that is, a protective attitude toward the hated person. In this material the emotional reaction to the mother is dominant, thus indicating progesterone production; but instead of positive feelings, anger and hostility prevail. On this basis we evaluate it as a sign of diminishing progesterone. Even more psychodynamic tendencies were listed on May 10: hostility toward the mother and fear of mother; homosexual tendency; narcissistic identification; exhibitionistic tendency and inferiority feeling, which we term “negative narcissism.” Of these tendencies, the first is the same as on the previous day; the inferiority feeling, as a sign of hostility toward herself, also indicates a low level of progesterone production. The libidinous interest in the beautiful girl, the identification

with her in order to be admired, shows sexual interest and was evaluated as a sign of incipient estrogen production. We noted, however, that the libidinization of one's own body as a sign of estrogen production is similar to an early adolescent infantile reaction. It was evaluated, therefore, as a sign of low hormone level. The manifestations of tendencies which impress us as libidinous, erotized feelings, such as occur in a child, are evaluated as signs of low hormone level in an adult.

4. We also demonstrated that the psychodynamic tendencies which motivate the actual emotions (in correlation with hormone production) show distinct individual variations. These variations originate in and are determined by the personality structure of the individual. The personality structure, however, is the result of complex developmental factors, many of them unconscious. For example, the dependence of Case XI may originate in the personality of this patient, since we find very little material in this case which does not reflect a dependent need. This would indicate a somewhat lower level of hormone than is usual. But it also indicates that her psychodynamic structure is dominated by her dependent tendency.

5. As these unconscious, repressed developmental factors become conscious during the process of the analysis, they influence the content of the psychoanalytic material. Although physiological stimuli influence emotional material, they cannot change its content, which must remain within the framework of the developmental history of the individual.

In analyzing the psychoanalytic material for the purpose of prediction of the hormonal status, we deal with three superimposed layers in our material: (a) the actual emotions which are conscious or almost conscious; (b) physiological stimuli which may be conscious but often remain unconscious (for example, physiological stimuli of the progesterone phase can only be interpreted; they rarely become conscious as physiological need); (c) the personality structure, which is fundamental. Its determining factors are, for the most part, unconscious.

CHAPTER 7

CRITICAL EVALUATION OF THE METHODS AND THE DISCREPANCIES

We have already presented the technique of interpretation and prediction, and we have given examples showing how we interpret the psychodynamic tendencies which motivate the behavior of our patients. We have evaluated the relationship between the various psychodynamic tendencies in order to determine which of them were activated by environmental factors, which pertain to the individual's basic psychosexual structure, and finally, which were considered to be manifestations of physiological stimuli. These last we have correlated with the specific phase of gonad function. The exactness of the correlations demonstrates the specificity and promptness with which the psychic apparatus reacts to changes of gonad hormone production.

Table 2 (Chapter 2) gives a general survey of our predictions. Table 9 shows, for each individual case and for the group, the number of the specific hormone states diagnosed and the errors in prediction. The errors are subdivided into two groups, complete discrepancies and partial discrepancies.

We have shown that the psychodynamic reaction to an incipient hormone state was so precise, that of 291 incipient estrogen states, 282 were correctly predicted. The onset of progesterone production in the preovulative phase is so marked, that of 115 incipient progesterone predictions, 113 were correct. The other 8 discrepancies noted in the table are due to differences in the quantitative estimation of the estrogen levels. We predicted estrogen on 796 days. (See Table 3.) This count does not include days of the progesterone phase during which estrogen also appears. Of the 796 predictions, 731 were correct and there were 65 discrepancies. There were 993 days on which progesterone production was stated; predictions were correct for 947 days, and there were 46 discrepancies; ¹ low hormone level was stated 587 times, of which 555 were correct, and there were 32 discrepancies. Of a total of 2376 hormone statements, total correlation was made 2233 times and there were 143 errors (6.0 per cent). This last figure represents the sum of total and partial discrepancies. By total dis-

¹ Of 993 progesterone days, 105 had already been counted in the E. P. Column. Discounting this duplication, there is a total of 2128 correct predictions.

TABLE 9

DISTRIBUTION OF DATA IN THE VARIOUS PHASES OF THE GONAD CYCLE WITH SPECIAL REFERENCE TO THE LEVEL OF SEX HORMONE PRODUCTION

| CASE No. | INCIDENT ESTROGEN | | | | ESTROGEN | | | | ESTROGEN PLUS PROGESTERONE | | | | DIMINISHING ESTROGEN | | | | TOTAL ESTROGEN | | | | INCIDENT PROGESTERONE (PLUS ESTROGEN) | | | | PROGESTERONE (PLUS ESTROGEN) | | | | DIMINISHING PROGESTERONE (PLUS ESTROGEN) | | | | TOTAL PROGESTERONE | | | | Low Hormone Level | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ | P# | C+ |

C+: Means complete errors.

P#: Means partial or quantitative errors.

NOTE.—The numbers represent days on which both investigators had adequate material for diagnosis.

crepancy we mean that the vaginal smear showed one specific hormone state, but that on the basis of the psychoanalytic material, the production of another hormone was predicted. By partial discrepancy it is meant that our quantitative evaluation of the hormone level was incorrect, or that in cases where both hormones were present, only one was correctly predicted, or vice versa. For example, production of progesterone and estrogen might have been predicted, when only estrogen was found in the vaginal smear.

Of the 65 errors in estrogen prediction, 11 were total and 54 were partial discrepancies. This means that there were only 11 days of the 796 estrogen days on which we failed to recognize estrogen production (1.4 per cent). Of the 46 errors in progesterone prediction, 5 were total and 41 were partial discrepancies, showing that of the 993 days of progesterone production we failed to recognize this hormone on 5 days (0.5 per cent), and that on 41 days either we failed to make a correct quantitative estimate or to recognize its relation to estrogen production. Of the 587 low hormone level days, we predicted the presence of both hormones 13 times, of one hormone, 19 times (5.5 per cent). The sum of estrogen and progesterone days is 1789; of these, prediction was correct on 1678 days; there were 16 total (0.9 per cent) and 95 (5.3 per cent) partial discrepancies; while in the 587 days of low hormone level state there were 13 (2.2 per cent) total and 19 partial (3.2 per cent) discrepancies. This illustrates that the predictability is 96.5 per cent when hormone production is specific or high, and 95.7 per cent when the hormone level is low or not specific.

It can be said that had the conditions of this investigation been ideal, we should have achieved an almost absolute correlation of the psychodynamic manifestations with the gonad hormone function. Even though our correlations are not perfect, they do bring out the fact that in adult women of childbearing age, the centrifugal psychodynamic tendencies are generally related to estrogen and the centripetal psychodynamic tendencies to progesterone production. Failure to accomplish complete correlation can be attributed to the shortcomings and complications in our material and to the imperfection of our methods. Here we wish to discuss these sources of error and to present an explanation of some of the discrepancies.

We have discussed the advantages of the psychoanalytic record for purposes of research (Chapter 4). We now call attention to the shortcomings and pitfalls involved. Incompleteness of the record is one of the most important sources of error. The record may be incomplete for various reasons. One of these is the failure of the analyst to record the patient's own words or his neglect to record the patient's current

actual experiences. Another is that current material, an actual experience, worry, or trauma—accidental and independent of the patient's motives—may fill the psychoanalytic session. A third reason is that the analyst may feel the necessity for continuing discussion or asking questions concerning problems important for the analysis, and thus direct the material so that the underlying emotions cannot be deduced from the record. We therefore made neither interpretation nor prediction when it was recognized that (1) the record was too fragmentary and gave only a summary of the psychoanalytic session; (2) the recorded material was concerned only with actual happenings; (3) the psychoanalysis itself influenced the material in such a way that the record contained only conscious reactions to interpretive material. Although such incomplete psychoanalytic material interrupts the investigation of the cycle, it does not under these circumstances constitute a source of error, since we did not include such material; we merely noted it as "lack of psychoanalytic material" or as "lack of hormone characteristic material." Since the evaluation of our material counts only those days on which both psychoanalytic and slide material were available, we should investigate those sources of error which, though not so conspicuous, are more important because they are inherent in the psychoanalytic method itself. Although the patient takes the vaginal smear daily, the analyst does not make reference to this procedure nor ask questions about heterosexual or other emotional manifestations in order to elucidate the sexual cycle. Ordinarily, married women do not mention coitus, which, however, may decrease the sexual tension which otherwise would have been expressed involuntarily in the psychoanalytic material. It is possible also that the patient willfully disguises actual happenings. We know that characteristic and important experiences are often withheld at first and exposed to discussion in analysis at a later date. Therefore it is not farfetched to assume that the patients may use the vaginal smear investigation as a means of resistance. In fact this did happen in some of our more defiant cases (X, XIV, and XV). Even though the patient may withhold an actual experience or a revealing fantasy, unconscious or preconscious psychoanalytic material usually discloses the direction of the psychodynamic tendencies. The negative transference may interfere with the free flow of associations and emotional manifestations which would reveal the sexual cycle. Aggression toward the analyst, feelings of frustration, etc., may color the emotional manifestations, but all this material is evaluated just as is any other emotional material.

It is important at this point to discuss the influence of the positive transference on the emotional manifestations of the sexual cycle. The

positive transference appears to be intensified during the estrogen phase of the cycle; we found that incipient estrogen is easier to recognize when the patient is being analyzed by a man. When there is a recognizable though slight degree of estrogen production, the patient turns emotionally toward the analyst. In Case I there were five failures in predicting incipient estrogen. Four times it was not recognized, and low hormone level was predicted because this patient expressed dependence on her female analyst. When estrogen production increases, the sex of the analyst does not then disguise the object of the heterosexual tendency. If the analyst is a woman, however, it is possible that the tendency will be mixed or overlaid with homosexual fantasies. With this in mind, we can explain some of the discrepancies in Case I. On the basis of heterosexual and homosexual tendencies, we predicted estrogen and progesterone production when only estrogen was found. In these instances the psychological material, which we had assumed to be characteristic of progesterone production, was motivated by transference alone. During the progesterone phase of the cycle, though the difference of the transference reaction is somewhat less marked, it may still affect our predictions in the following way: the ever-present heterosexual emotional reaction to the analyst may color the psychoanalytic material during the progesterone phase before there are indications of premenstrual estrogen production in the vaginal smear. In Case IX, which was analyzed by a man, we counted six partial discrepancies when, during the luteal phase, we predicted estrogen plus progesterone, whereas only progesterone was found. There are, of course, other manifestations of positive transference which could induce failure in predictions of the hormone state. We have here confined ourselves to an explanation of those discrepancies that are most readily recognized. It should be remembered that we have not based our predictions on knowledge of the cycle; having tentatively established our criteria for predictions, we could ascertain their reliability only by adhering to them quite rigidly and accounting for all the psychodynamic tendencies which we recognized. Because the effect of psychoanalytic treatment is so deeply stirring, and because certain neurotic conflicts come into sharper focus during treatment, we naturally expect that the analytic procedure will influence the predictability of physiological stimuli. We can therefore appreciate the doubts of those psychoanalysts who wonder whether psychological material can be correlated with such physiological stimuli as hormone production. We hope we have succeeded in demonstrating that physiological stimuli activate and motivate psychodynamic manifestations. Still we have to recognize that there are periods of the psychoanalytic treatment in which the predictability is better, and

others in which the psychoanalytic procedure does influence the predictability unfavorably. For instance we cannot expect that the hormone state will be clearly reflected if the psychoanalytic material contains chiefly anamnestic data. After the first anamnestic period of psychoanalysis, the psychological material unfolds and brings the material that is most reliable for purposes of prediction of the hormone state. During later phases of the analytic procedure, the analyst may wish to follow up one or another specific problem of the patient, with the result that a specific conflict may dominate the session or even several sessions and thus overshadow the characteristic material by which we predict the hormone state. These sessions, if not recognized by the investigator, often account for the total discrepancies or for the prediction of both hormones when only one is produced, or for one or both when the slide shows only signs of low hormone production. Since discussion of the specific problem is often highly charged with emotion, a higher hormone production is predicted than is found in the vaginal smear. The end phase of an analysis often renders prediction very difficult. The patient is then engaged in working through important conflicts, and the problem of separation from the analyst and from analysis itself dominates the analytic material so that we find an emphasis on dependence. On this basis we may then assume a low hormone level, which, however, does not correspond with the findings of the vaginal smear, for the dependence was activated by the external situation, the ending of the analysis.

There is still another complication implicit in the psychoanalytic procedure itself—namely, the changes in the personality of a patient during the analysis. For purposes of tabulation we have reduced the great variety of emotional manifestations to a relatively small number of psychodynamic tendencies, but for purposes of prediction we have had to carefully observe individual differences in the phenomenological display of emotions. One person may always seem to be highly charged with emotion. This may mislead the investigator: his estimate of hormone production may be too high, or upon taking into account the exaggerated expression of the emotion he may not be able to gauge the proper level and may consequently predict a lower production than really exists. This explains some of the discrepancies in Cases X and XV.² The opposite may also be true. The generally suppressed emotional manifestations of a very inhibited personality may mislead the investigator into assuming a higher hormone level when-

² If we had analyzed these emotions correctly, using the correlations as described in Chapter 5, we could have avoided the discrepancies. We should then have observed that the intensity of the emotions originated in hostility or in very strong, aggressively colored demands or that they represented reactions to frustration. In the light of these observations, we would have estimated lower hormone levels.

ever the psychological material displays emotion, as some of the discrepancies in Case XIII exemplify. In analyzing the psychoanalytic record, the investigator learns to attune himself to the woman's reactions to her hormonal variations. This "individual equation," however, changes because of and during the process of psychoanalysis. The overreactive person may calm down; the inhibited patient may become freer so that her psychological material will appear to be charged with more emotion than formerly. Not only the content of the analytic material changes, but defense reactions also show variations: anxiety may diminish, sexual inhibition may disappear, and actual experiences may influence the accustomed reactions to sexuality. The investigator might easily neglect to consider some of these factors and thus fail in prediction of the hormone state. Most of our quantitative discrepancies can be explained on such a basis. One might properly ask whether changes in emotional reactions correspond to changes in hormone production; whether the patient whose sexual inhibition disappears will produce more gonad hormones than heretofore. Our observations are too limited to permit an answer to this question. In this investigation only a few cases were followed through to the end of their psychoanalytic treatment. This important problem must be deferred for further investigation.

In view of all the complications and difficulties inherent in the psychoanalytic procedure, one might wonder why we have not made more errors in our predictions. One may inquire whether the objectively recognizable facts are such that other investigators might secure the same or similar results. We have shown in Chapter 4 that dreams are the most reliable psychological indicator of emotions, and through them, of gonad hormone change. The dreams of our patients helped to overcome the difficulties discussed above. We believe that we could not have been so successful in predicting the hormone phases in patients who seldom dreamed. We cannot maintain, however, that dreams were without exception correct indicators of the hormone state. There were six total discrepancies in which dreams betrayed our criteria for prediction. Nor do we wish to create the impression that all the correct predictions were based on dream interpretation alone. When dreams were available, they guided us in evaluating all other material. In these six instances the dreams clearly indicated one psychodynamic tendency strong enough to dominate the psychoanalytic material during the analytic session, and accordingly we felt safe in making a prediction—only to find later that the vaginal smear presented a picture at variance with our prediction. The other discrepancies, as we have already stated, could have been avoided had the investigator considered all the factors correctly. Since in our judg-

ment these six total discrepancies represent the real limitation of our method, we feel that they should be discussed in detail.

Our first example is a dream of Case III, Cycle IV, December 11.

I had to phone home to talk to my father. It was 11 P.M., and after the operator began to phone I almost hung up because I feared that my father would be angry about the late call. I seemed to be at home, discussing my brother's problems with my parents. My father was angry because I had come so late. I was in a terrible rage. I said: "G—D—you! We came all this distance to help him, and you start fussing." Then I felt uneasy about my outburst.

Associations: Anger, reproaches against the father. The patient is very upset and begins to cry. During this session she has an attack of colitis, so uncomfortable that it interferes with her speech. Our interpretation of the dream and of the associations was (a) wish to go home to father, to be close to him; (b) fear of incestuous tendency and consequent inhibition of the wish to be home with father; (c) anger against the father because she feels he does not love her—the denial of her oedipal desire; (d) the "brother's problems" represent another aspect of the same conflict. The psychodynamic tendency was heterosexual, and estrogen was therefore predicted. The vaginal smear showed cell types #5-6, characteristic for progesterone production. In this psychoanalytic material, not one of the progesterone correlations was recognizable. This example shows the limitations of predictions obtained by evaluating only the psychodynamic tendencies expressed in dreams.

Very similar was the discrepancy at which we arrived by interpretation of the following dream of Case XI, Cycle III, December 15.

I was chased by a man who shot a gun at me. I awoke with terrific fear. It was one of the worst nightmares.

From the high degree of emotional tension indicated in this dream we concluded that the dreamer was under the influence of an intense physiological impulse which we interpreted on the basis of the dream symbolism as heterosexual tendency. We predicted estrogen, premenstrual, while the vaginal smear showed cell types #5-6 and was evaluated as the peak of the luteal phase in the cycle.

The third discrepancy occurred on the basis of the following dream of Case IX, Cycle XVII, December 11.

In my dream, all of a sudden I wanted my husband to have intercourse with me, so I said to him, "Come and give me an injection." I kept repeating that. I was very passionate in my dream.

Since there was no psychoanalytic session that day, the dream was the only available material. On the basis of the dream content, estrogen was predicted. The vaginal smear showed cell type #5, desquamation, progesterone. A long and complex dream which came on the following day is characteristic of progesterone; it contained many pregnancy symbols as well as heterosexual tendency. Thus on December 12 our prediction was progesterone and estrogen.

In the evaluation of the last two dreams, we judged that both corresponded to high hormonal production. The dream of Case XI corresponded to the peak of the luteal phase. We may reason that the high hormone tension created a sexual need, thus stimulating a dream which expressed a defense against heterosexual tendency. Knowing the personality structure of this patient and the fact that the lack of typical progesterone correlations was characteristic for her (see page 126), we might argue that even the dream did not disclose signs of progesterone production. The hormone tension activated only the defense against sexual desire. The dream of Case IX on December 11 expressed an intense sexual receptivity. As we have indicated, psychosexual receptivity usually occurs when both estrogen and progesterone are produced. This dream corresponds to the postovulative phase of the cycle, but it does not show the characteristic postovulative symbolism nor those characteristic correlations with progesterone which appeared in the dream of the following night. We might have been able to recognize the progesterone function on the basis of receptivity. This discrepancy can therefore also be explained on the basis of an incorrect evaluation of dream motive. While it may seem fortunate that our cases showed psychodynamic material so typical as to enable us to recognize correlations with progesterone production by specific manifestations of the receptive and retentive tendencies, this advantage sometimes misled us into overlooking progesterone which did not correspond to one of our specific criteria.

The following dream of Case XII, Cycle VIII, April 21, also led us to a misinterpretation of the physiological stimulus, although on a different basis.

I awoke with a feeling that I had just had an orgasm in a dream. In the dream I can only remember that I went to visit a girl friend, but she was not the same as in reality. She had a baby. She looked disheveled in the dream. She was lying on the bed, or sitting on the edge. She looked messy. Someone brought in her baby. I observed that she looked changed. She was happier, perhaps because someone was bringing in her baby. Looking at her, I had an orgasm.

We cited this dream in Chapter 4 to show that orgasm can be a discharge of emotional tension created by other than sexual stimula-

tion. The manifest content of this dream reveals that the patient feels that a mother is made happy when she looks at her newborn baby. That the mother is "messy, disheveled," we interpreted as the patient's identification with a mother after childbirth. On this basis we assumed that motherliness is the main emotional content of the dream. This tendency we regularly correlate with progesterone. But we evaluated the patient's fascination by the "messiness" as a representation of a soiling tendency, which may be related to genital or to anal elimination. The eliminative tendency qualified our interpretation in the sense that we assumed a decline of hormone production. On this basis, decline of progesterone was predicted. The vaginal smear read "aggregated basal cells" and was therefore diagnosed as very low hormone level.

In this connection, the following facts should be emphasized: (1) that the discrepancy noted is quantitative; (2) that the excitation which is discharged by orgasm in dreams usually indicates a high hormone tension; and most important, (3) that orgasm is induced in spite of low hormone level. We do not want to discuss the significance of this fact or go into further interpretation of the dream, but we do wish to point out that this dream, if analyzed at a deeper level, would give important information about the response of this patient to anal tendencies. As we have indicated, we did not make complete interpretation of dreams, and in our prediction we accounted only for those tendencies which seemed to dominate the material. This limitation was necessary, for otherwise we should have found, in almost every dream, manifestations of so many different tendencies as to render the dream interpretation useless for our purpose. This limitation, however, causes us to overlook some tendencies which if properly evaluated would have saved us some discrepancies. The following dream, taken from Case VIII, Cycle XV, September 13, illustrates this point.

Somebody wanted me to rent an apartment with six rooms. The person was very urgent about it, but I did not like the apartment at all. The kitchen was nice, but the rooms were small and dark and they all ran together. I looked in the bathroom. There was a huge bathtub which reached the ceiling. It would be cold and draughty. I did not like it, but I wanted to take it because E. P.'s [girl friend] brother was there.

This example helps us to explain not only the limitation of the dream as a measure of hormone change but also the limitations of the investigator in the evaluation of psychodynamic tendencies. In comparing a series of the dreams of this patient, studying her associ-

ations, her personality development, and her conflicts (Case VIII, page 204), we learn that in her dreams rooms represent the mother or the mother's womb, which she again and again imagines as a space with six compartments, a reference to her mother's six pregnancies. In this dream she seems to be concerned with mother-identification, whether she should accept feminine sexuality which someone, perhaps the analyst, urges upon her. On this basis we evaluated the dream as a manifestation of the problem of mother-identification and in accordance with our criteria we predicted progesterone. The last dream-thought, however, was: "I did not like it, but I wanted to take it because E. P.'s brother was there." This dream-thought, her interest in a man, expresses her willingness and desire to accept the feminine role. We should have recognized the heterosexual tendency and therefore should have predicted estrogen as well as progesterone. We assumed that there was a progesterone dominance, for the reason that there was a marked womb-symbolism in the dream and a pre-occupation with the problem of accepting the feminine body and sexual role. While the vaginal smear gave no evidence of progesterone production, it showed cell types #8-1-2-3; low hormone level with estrogen dominance was diagnosed. The tendency expressed so strongly in the dream had led us to assume progesterone production not confirmed by the vaginal smear which showed signs of slight estrogen production. The slide of the following day, September 14, showed cell types #6-7, mucified debris. Progesterone was therefore diagnosed. In this instance we have the impression that the progesterone production was indicated in the dream twenty-four to thirty-six hours earlier than in the vaginal smear.

The following dream of Case IX, Cycle III, December 1, is a similar illustration.

One thing that stands out in my mind is that the man who had a gun in his hand was in the basement. I don't know whether I was brave or what it was, but I was on the outside and I leaned over and put my hand through the window and his long fingernails scratched my hand on the back, near the thumb. Blood was coming out. It was a long scratch. I seemed to feel his sharp fingernails. This man was a thief and a murderer. Then there was a bunch of policemen, and people were running around.

In association to this dream, the patient added, "I don't know of whom this man reminds me, but the sharpness and the pain of the scratch seem to fit in with a remark of my mother-in-law yesterday." The symbolism of this dream expresses the fear of a sexual attack characteristic of this patient; she was "brave" and took a chance,

attempting to overcome the fear of sexuality. Sexuality for her means bleeding. While we interpreted the bleeding as the expression of her masochistic concept of sexuality, it may have represented her fear of, and preparation for, the impending menstrual flow. Further associations during this session had shown the wish to be well dressed, the wish to be admired, to attract men. Thus the dream and the associations were interpreted as heterosexual tendency and exhibitionistic tendency. Premenstrual estrogen and progesterone were predicted. The vaginal smear showed cell types #6-7 and was diagnosed as low hormone level. We should mention that the bleeding, if related to the impending menstrual flow, could have been interpreted as an expression of the eliminative tendency. Since this is an indication of declining hormone production, our prediction would have resulted in a partial discrepancy only. The heterosexual tendency was very strongly expressed in the dream, and in her associations as well, tending to overshadow the expression of progesterone. For this reason we found it more consistent to relate the bleeding to her fear of sexual attack. It is interesting to note that the slide on the next day is #5-6-7-1, and the hormone level was diagnosed as low level of estrogen and progesterone. The premenstrual estrogen production in this instance could again be recognized in the psychoanalytic material twenty-four to thirty-six hours earlier than in the vaginal smear.

Several limitations in our methods have been demonstrated by the discussion of these discrepancies: (1) occasionally, dreams cannot be correlated with the hormone state; (2) in evaluating psychodynamic tendencies, we may neglect one or overestimate another; (3) most important, there may be deviation in tempo of reaction between the emotional manifestations and the hormone changes, thus creating a time discrepancy between the two spheres of investigation.

Although we used the vaginal-smear, basal body-temperature technique as a basis for comparison, we must emphasize that evaluation of this technique is still in its incipient stage, that it had not been used before for evaluation of the daily hormone fluctuations, and that its findings must be further tested by still other methods.

The vaginal smear clears up when the hormone level is high, and consequently the interpretations of high levels are more definite and more reliable than those of low hormone levels. The estrogen phase gives a picture of increasing cornification. Ovulation and progesterone production during the luteal phase are sufficiently distinct so that a statement about the phase may be made quite safely. But we must again point to the fact, already discussed in Chapter 3, that during the luteal phase there are often several days in which the cell types characteristic for estrogen production do not appear in the vaginal

smear. In strict observance of the criteria of this investigation, however, we diagnose only progesterone, even though a combination of both hormones is present in the physiological, hormonal, state.

Another difficulty holds for the brackets of declining and of low hormone level. The technique of evaluating the vaginal smears at low hormone levels is still uncertain. The following examples may be used to illustrate this difficulty. As presented above in Case IX, a vaginal smear showing cell types 6-7 was estimated as low hormone level. In other cases a similar smear was estimated as a sign of declining progesterone or even of progesterone production. Vaginal smears, showing cell types such as 7-1-2 or 1-2 or 1-2-3, were estimated as indication of estrogen production in Cases X, XII, XIII, and XV, while the same smear picture in Cases I and II was evaluated as low hormone level or as incipient estrogen. Other examples could be mentioned, indicating that in the vaginal-smear technique an individual equation for each case must be developed by comparing slides of one patient during several cycles, just as in psychoanalysis we must find an individual equation in the day-by-day evaluation of the emotional states.

The coordination of the two sets of reactions—psychological and histological—await further confirmation. Although for convenience and at the present stage of our knowledge it is best to correlate the psychoanalytic material with the vaginal smear of the same day, this time relation must certainly not be rigid. A variety of factors may prompt or delay manifestations of psychic reaction to the hormonal state; it is possible that various, still unknown factors influence the reaction of the vaginal mucosa as well. We compared the psychodynamic tendencies revealed in the dream with the slide of the following morning. The time difference may be only a few hours, but we often found that the difference in reaction time was in advance of the vaginal smear by more than 12-24 hours. It may therefore be assumed that in the usual sequence the psychic apparatus reacts first, and the histological changes of the vaginal mucosa develop later. This difference in reaction time, however, is obvious only on days when characteristic qualitative changes of the cycle occur, that is, at the onset of one of the hormones. During any phase of the cycle this difference levels out, and with our present methods of the investigation of twenty-four-hour material, the subtle quantitative variations cannot be followed minutely.

There is another difference in the course of the two sets of reactions which, although not fully evaluated in the present investigation, will be mentioned here. It often occurs that the psychic reaction is especially sharp at the beginning of a new hormone phase. For ex-

ample, the incipient production of estrogen after a postmenstrual low hormone level period or the indication of the early premenstrual phase may induce dreams, fantasies, or sexual desires more intense and articulate than the emotional reactions during the further development of the cycle. This is also true for incipient progesterone production which is marked by a change in the psychodynamic tendencies. It often appears that qualitative change in hormone production is first registered with great sensitivity by the psychic apparatus, which later adapts itself to the hormone. Sometimes the emotional reaction to the incipient hormone phase was so intense that we estimated a higher hormone level than was found in the vaginal smear, even higher than in the psychodynamic manifestations of the following day. There are two possible explanations for this decrease of emotional tension that takes place despite increasing hormone production. One is that the sexual desire is satisfied. We know that after gratification the emotional manifestations decrease in intensity, although the hormone production increases. The other is that after the primary adaptation to the physiological stimulus, psychic defense reactions may diminish in intensity. The vaginal mucosa, however, shows a gradation of change from day to day. Thus, comparing the two methods on the basis of our present observations, we may state: (1) that the psychodynamic reaction to incipient hormone phases occurs more promptly and may be more articulate than the reaction of the vaginal mucosa; (2) that psychodynamic manifestations of quantitative variations of the hormones are so complex and so much influenced by many factors that the more regular changes of the vaginal mucosa afford a better measure of comparison during the course of a phase.

Summary

The sources of errors were studied. Failure in achieving complete correlation may originate not only in the shortcomings of the records and of the collected slide material but also in the failure of the investigators to evaluate all the factors correctly. Sources of error inherent in the methods are (1) the influence of the psychoanalytic method upon the psychodynamic material, and (2) the incompleteness of the technique of estimating hormone levels from the vaginal smear.

Limitations of the methods, as demonstrated in the analysis of six total discrepancies, may be stated as follows: (1) the psychodynamic material, even the dreams, may be influenced by factors independent of the actual hormone state; (2) psychodynamic reactions to hormone change may occur twenty-four to thirty-six hours earlier than the vaginal mucosa indicates; (3) the psychodynamic reaction to incipient

hormone production may be more intense than to a somewhat higher level of hormone production later on in the cycle. Thus there is a deviation in the two methods which accounts not only for our present discrepancies but which may also indicate the limitation of the comparative method.

CHAPTER 8

THE GONADAL AND THE EMOTIONAL CYCLE

We have discussed the coordination of the techniques which were used in the study of the sexual cycle. We showed that the vaginal-smear, basal body-temperature technique affords a method for day-by-day investigation of the gonadal cycle and that psychoanalysis permits investigation of the day-by-day fluctuations in psychosexual tension. We demonstrated the exactness with which the psychic apparatus reacts to changes of gonad hormone production. In this chapter we shall start with the physiological phenomena of the gonadal cycle and we shall describe the corresponding psychological phenomena, phase by phase. We are aware that such a description can be only schematic, and that it must contain generalizations which have been more exactly stated in other parts of this monograph (Chapter 5). Still it is necessary to describe how the emotional cycle is always parallel to and dependent upon the gonadal cycle so that the two represent a psychosomatic unit.

Follicle-Ripening Phase

The ripening follicle produces a group of hormones known as estrogens. The chemistry and metabolism of these hormones will not be discussed here. Of their various physiological effects, we are only interested in their effect upon the psychic apparatus. The mechanism of this effect is still unknown. The interpretation of its emotional manifestations, however, has shown conclusively that during the phase of estrogen production the emotional state is dominated by an active tendency of the sexual drive. This is easily recognizable when it is expressed as sexual desire. It has, however, other effects which can be recognized as estrogenic only by comparison with those phases of the cycle in which estrogen production is reduced. Thus the emotional state corresponding with estrogen production is usually—when nothing disturbs it—one of well-being and alertness. The ego is supplied with more active energy which is manifested by extroverted activity and by increased strength of the ego in maintaining self-esteem. This greater integration of the ego during the follicle-ripen-

ing phase is impressive as a corroboration of Freud's concept of libido (1930) as a psychic energy aiming at greater integration. We have previously shown that the psychic apparatus is a sensitive register of incipient estrogen production. In some instances we recognize it by a change in the ego alone, but very soon other manifestations appear which we usually attribute to the id, namely, dreams, fantasies, conscious desire, or sexual activity which express the active tendency of the sexual drive. If sexual desire is gratified, its psychic expressions become less articulate. Hormone production continues to increase, while emotional energy is discharged in extroverted activities and the mood becomes one of serenity and contentment. If the sexual desire does not achieve gratification, it becomes the function of the psychic apparatus to deal with the increasing emotional tension. We have already described some of the manifestations of increasingly active sexual tendency. There seems to be a semiquantitative relation between the level of hormone production and the emotional intensity of its psychic manifestations. Although the incipient libidinous charge of the ego increases activity and productivity and is usually agreeable, it is converted into a disagreeable tension if its gratification or its transformation into satisfactory activity is blocked. Restlessness and irritability are the expressions of a thwarted active sexual drive. The increased emotional tension, which corresponds to an increasing estrogen production, may be felt as sexual urge; it may be connected with an impatient need for substitute gratification; or it may be expressed as an aggressive tendency. In some persons, increased sexual tension may produce anxiety. Whether sexual desire, aggression, or anxiety will be the emotional reaction to increased estrogen production depends on the psychodynamic development, on the personality structure, and also on the actual life situation of the individual. Actual occurrences, gratification, or frustration of sexual desire influence the emotional reactions to further development of the hormone cycle (Chapter 6, Case I, Cycle I). It may also happen that such occurrences affect not only the emotional reactions but also the hormone production itself, although the latter rarely can be demonstrated.

Ovulative Phase

At about the time of follicular maturity, the granulosa undergoes transformation; lutein cells appear; progesterone production begins in the granulosa. Thus progesterone production begins before ovulation occurs. Usually the first evidence of the presence of progesterone is a change in the direction of metabolic activity—a rise in body temperature and metabolic rate. This change is registered even more

sensitively and accurately by the psychodynamic processes. We have found that whenever progesterone is produced, a passive receptive tendency of the sexual drive appears. The active, object-directed sexual drive (which corresponds to high estrogen production) appears colored by or fused with a passive receptive tendency. The characteristic hormone state of the ovulative phase is high estrogen and minimal progesterone production. The corresponding psychodynamic state is a dominant, active, object-directed sexual drive that is fused with passive receptive tendency. The emotional expression of this psychodynamic state may manifest itself in various ways. A sexually mature personality experiences an increase of sexual desire, a wish to receive the sexual partner, greater readiness for coitus. In dreams and fantasies the receptive tendency finds more articulate expression in overt or symbolic indication of the desire to be impregnated. The anticipation of gratification or frustration influences the emotional manifestations of these psychodynamic tendencies. When the sexual need is not relieved, the emotional tension increases until the passive receptive tendency grows to an urge to incorporate. This incorporative tendency is also a receptive desire, but it is merged with a more active tendency. However, it is not always expressed as a genital urge; in dreams and fantasies or in impulses it may be substituted by an oral tendency to incorporate. Thus during the preovulative phase the sexual urge may become so intense that it finds expression in genital or oral aggression. Our case material—all derived from neurotic women—often shows pathological increase of emotional tension during the preovulative phase. Irritability, sensitiveness, weeping spells, and rage reactions characterize this phase, which in normal women would be the period of estrus. It is not too difficult to find an explanation, either physiological or psychological, for these emotional reactions. The increased physiological tension may be subjectively disagreeable; the feeling of frustration shifts the psychodynamic tendencies so that the aggressive tendencies increase, while the passive, receptive, libidinous desires diminish. On the other hand, the ego reacts to the unsatisfied sexual demand as if it were a humiliation and so must develop an increased defense against it. An analysis of the recorded psychoanalytic material of the preovulative phase often led us to recognize this phase by the fact that the unconscious conflicts of the individual seemed to be more manifest and more charged with emotion than at any other time. It is as if the actual increase of hormones stirs up latent, suppressed conflicts which had once been motivated by the same psychodynamic tendencies and are now again driven toward consciousness. The increased tension is often discharged through dreams and fantasies, by conscious emotional atti-

tude, and by acting-out. If the conflicting psychodynamic tendencies have once found an outlet in psychosomatic symptoms, the symptoms are likely to reappear or new ones to develop. The tabular presentation of the cycles gives several examples in proof of this statement. (See tables in Chapter 10.)

The Ovulative Change

When ovulation occurs, the tension is suddenly relieved and a period of relaxation follows. The "ovulative change" is usually more marked in frustrated and neurotic women than in women with well-regulated sex lives, for increased heterosexual desire is normally gratified before disagreeable tension develops. While the postovulative mood-swing of neurotic women may be more conspicuous, a noticeable calmness and contentment differentiates this emotional state from the more active and extroverted preovulative period in all women. *The hormonal condition after ovulation is first characterized by sudden decrease of estrogen, followed by a rise parallel to the increased activity of corpus luteum by which progesterone is also produced. Hence after ovulation the active object-directed heterosexual tendency decreases, and the sexual drive takes a passive direction, becoming concentrated on the self as the object of libido.* In our study, ovulation was predicted on the basis of this psychodynamic condition in every instance. We regard this change in the psychodynamic manifestation as a systemic reaction. Indeed, nothing is more likely to reveal the new phase of the sexual cycle than the psychic apparatus which at this time expresses the emotional reactions to the biological task of reproduction. Other systemic reactions to ovulation have been mentioned earlier. We wish now to describe some of the psychosomatic reactions in general terms. The hormone level is high. The body is flooded with libidinous feelings which enhance the feeling of love. It is almost as if the repletion of the body with libido had satisfied the active urge, so that all feelings of need had been calmed to a state of contentment with the body. This diminishes the inhibiting factors, tends to weaken barriers between the woman and her sexual partner, and thus creates a readiness to consummate sexual experience (Weiss, 1925). The increased libidinous charge of the genital organs sharpens awareness of those organs now in a state of receptiveness. The libido, concentrated upon the self, heightens receptive feeling toward the sexual partner and thus prepares the woman emotionally for her highest genital function, for conception. In analyzing the hormonal and psychodynamic factors which motivate this emotional state, we have found that, corresponding to the high hormone production at

ovulation, the heterosexual tendency, the self-centered libido, and the passive receptive tendency fuse to create the highest integration of the sexual drive. To reiterate: in the evolution of the sexual cycle, a woman reaches the highest level of psychosexual integration of which she is capable at about the time of ovulation when her physiological preparedness corresponds with her emotional preparedness for conception. Not all women attain this high degree of integration. Those women whose personality structure is dominated by pregenital tendencies of the sexual drive also arrive at their highest possible genital integration in correlation with their highest hormone production; the hormone production may not be sufficient, in which case ovulation does not occur. Every woman has some cycles without ovulation. When ovulation does not occur, the sudden emotional relaxation does not take place; the emotional tension which characterized the preovulatory state then either continues or diminishes gradually and is often accompanied by a variety of depressed emotional reactions. In neurotic women, although the postovulatory relaxation is so marked, the well-being does not last long. Shortly after ovulation, these women again present symptoms.

Progesterone Phase

After ovulation the former space of the follicle is filled with more lutein cells. These cells produce both progesterone and estrogen, which maintain the uterus in a state suitable for reception of the fertilized ovum. In this phase, progesterone is dominant and estrogen is masked. The corresponding emotional state reflects the psychodynamic tendencies which parallel this hormonal phase, that is, the passive receptive tendency of the sexual drive is the dominating motive of behavior and the active heterosexual tendency is in the background. Thus a period lasting for several days occurs, comparable to the quiet period in lower mammals. For women, of course, this does not mean a disappearance of sexual excitability, but it does mean that the spontaneous sexual activity greatly diminishes. While the activity of the corpus luteum increases, the psychological material continues to express the attempt of the individual to prepare herself for the propagative role of womanhood. The emotional attitude may be calm and self-centered, as after ovulation; the psychodynamic tendencies motivating it might be defined as the receptive and retentive tendencies of the sexual drive. The psychic manifestations of these tendencies might be summarized as variations of the wish to be pregnant. We know that this wish seldom reaches the level of consciousness or that it reaches consciousness as a denial of or defense against

it. Whatever the ego's reactions may have been, we have found that the psychic manifestations can be interpreted as a wish for pregnancy (1) if the progesterone phase has developed, and (2) if the individual's psychosexual maturity is such that the sexual drive has genital aims. The psychoanalytic material, although its unconscious motive is the wish for pregnancy, may shift to the conflict with the mother. Though this conflict may have many variations during the development of the individual, its goal is usually the wish to become like the mother. The psychoanalytic material related to the progesterone phase repeats the striving for identification with the mother. The wish to be like the mother is often expressed by the desire to nurse, to feed, to take care of children. Thus the passive receptive tendency which was characteristic of the ovulative and postovulative phases appears in combination with retentive tendencies and with emotional manifestations of motherliness at the height of the progesterone phase. This combination of psychodynamic motives shows (1) high hormone production during the progesterone phase and (2) the genital integration of the personality structure.

If the personality structure is one of pregenital organization, the psychodynamic material corresponding to it will have other emotional manifestations. The main content of the psychoanalytic material may be the relationship to the mother, not in the sense of a genital conflict, not in the form of striving to be like the mother, but rather as a pregenital tendency of dependence, as a wish to be a child and to be protected by the mother. The behavior manifestations of this desire may be interpreted as regression, and indeed, in these cases of lesser integrated psychosexual development, the infantile tendencies are especially obvious during the progesterone phase, often correlated with a lesser degree of progesterone production. (See Chapter 9.)

The progesterone phase of the cycle is not free from psychosomatic symptoms; on the contrary, it might be said that after the period of postovulative relaxation, which varies greatly in length from cycle to cycle, the progesterone phase is the one in which typical psychodynamic conflicts and their symptom-manifestations occur. The repetition of the conflict with the mother, or the defense against motherhood, the conflict with one's own child, may cause great emotional tension. As we have already discussed, the progesterone phase corresponds to a combination of introverted psychodynamic processes. Thus there often develops a psychodynamic state similar to the one we consider responsible for depression. There is an increased narcissism combined with the genital receptive tendency, regressed to an infantile form of dependence and receptivity. This is also the characteristic psychodynamic condition for depression. We are not sur-

prised if, owing to a basic frustration, a depression occurs during the progesterone phase.

Premenstrual Phase

Unless pregnancy occurs, progesterone dominance persists only a few days. The corpus luteum begins to atrophy and the hormone production diminishes. Then a new follicle, or crop of follicles, begins to develop. The hormone state is characterized both by declining progesterone and by incipient estrogen production. The first evidence of premenstrual change is the unmasking of estrogen. The psychic apparatus registers the reappearance of estrogen by returning to the active object-directed heterosexual tendency. After a well-developed progesterone phase, the change in direction of the psychodynamic tendencies is as clearly marked as the change during the preovulative phase when the first sign of progesterone function is manifested by the passive receptive sexual tendency. The change in direction of the sexual drive always corresponds to a qualitative change in hormone production. It is as if the psychic apparatus is especially sensitive to an initial qualitative change in hormone production to which it adapts itself so that later psychic reaction becomes less keen, provided, of course, that the quantitative increase of hormones does not demand renewed reactions.

We have divided the premenstrual phase into two parts: (1) early premenstrual phase and (2) late premenstrual phase. This was done not only for the convenience of description but also because it is justified by the characteristic difference between the two phases with respect to hormone conditions and psychodynamic reactions.

Early Premenstrual Phase

After the easily identified reappearance of heterosexual tendency, corresponding to the new estrogen activity, the early premenstrual phase is characterized by variably shifting but usually low, hormone production. Generally, progesterone continues to decrease, while estrogen production remains low. In the psychodynamic material we find a combination of the psychodynamic tendencies characteristic of both hormones. In other chapters we have described the method of the quantitative evaluation of these relatively low hormone levels. Corresponding to the variation of low hormonal quantities during this period of the cycle, the psychoanalytic material is less charged with energy. The conflicts are not so sharply defined. The records give the impression that the patients at this time have a freer choice of

material and its elaboration, are less pressed by tendencies from within, than in other phases of the cycle. Comparing this part of the cycle with the preovulative phase, we have the impression of a relative regression. The psychodynamic material corresponding to this low hormone level is often expressed by pregenital tendencies of the sexual drive; even individuals of genital personality structure appear to regress somewhat in their emotional manifestations during this part of the cycle. The abated emotional tension changes sharply, however, during the last couple of days or hours before the onset of the menstrual flow, the period which we have termed "the late premenstrual phase."

Late Premenstrual Phase

We do not always find that a definite hormone change marks the limit between the early and late premenstrual phase. Hormone fluctuations characteristic of the early premenstrual phase may continue until the onset of the flow, at which time hormone production is suddenly reduced. In other cases or in other cycles, estrogen production appears to increase before the onset of menstruation. Because of its convenience we follow our method of presentation in describing the great variety of manifestations of the late premenstrual phase parallel to typical variations of the hormonal conditions. But we are aware that this may be fallacious. Emotional manifestations do not follow slight hormone fluctuations with the exactness we have observed in other phases of the cycle. The late premenstrual phase is that part of the sexual cycle which has always been recognized as the recurrent neurosis in women. Freud believed that during the premenstrual phase the woman repeats the neurotic constellation which she established at puberty as a reaction to the traumatic event of menstruation. We can not discuss the physiology and psychology of menstruation here, but our discussion of the sexual cycle would certainly be incomplete if we did not try to evaluate our observations and to clarify some of the problems involved. We have investigated the relationship between the late premenstrual phase and other phases of the cycle, especially the ovulative phase for each individual case, as will be discussed in the next chapter. In that chapter, we shall present pertinent psychoanalytic material to show the individual's adaptation to or defense against menstruation. Here we wish to inquire whether the correlation between the hormonal state and the psychodynamic processes yields new insight into the problems of menstruation.

The chief variations of the hormone state may be grouped as follows:

1. Progesterone is diminished and estrogen is maintained or slightly increased.
2. Estrogen is increased, while progesterone is maintained at a low level; that is, the late premenstrual phase is characterized by a hormone state similar to that in the preovulative phase.
3. Both hormones decrease simultaneously; that is, the late premenstrual phase is characterized by low and diminishing hormone level.

Although one of these varieties may be characteristic of the individual, we have observed great variation within the hormonal, as well as emotional, course of the premenstrual phases of each individual.

1. *When the late premenstrual phase is characterized by declining progesterone and by slightly increasing estrogen production*, the corresponding emotional state will be determined by two factors: (a) the eliminative tendency, corresponding to declining progesterone, and (b) the heterosexual tendency, corresponding to estrogen production.

What are the usual emotional manifestations of such fusion of psychodynamic tendencies? Can we assume that this constellation of the psychodynamic tendencies is responsible for the emotional state which often parallels this hormone state in the late premenstrual phase? The emotional state is characterized by tenseness, irritability, and impatience. Psychosomatic symptoms which indicate such an emotional condition often develop. The sexual desire is not fused at this time with a receptive, loving desire, but is frequently manifested as an impatient demand. It is a well-known fact that women are more aware of their sexual need during the premenstrual phase, and that the sexual desire may be more compelling than in other phases of the cycle. Although a separate study of these phenomena must be delayed for future research with a greater number of cases, on the basis of the present material we can make the following observation: When the vaginal smear shows estrogen production as incipient, it is usually but not always accompanied by a great sexual tension, by a compelling urge. We cite the following readings of vaginal smears as examples:

| | | |
|----------|---------|----------------------|
| Case I | Cycle 2 | Cell types: #7-1-2 |
| Case II | Cycle 3 | Cell types: #7-1 |
| Case III | Cycle 2 | Cell types: #7-1 |
| Case VII | Cycle 9 | Cell types: #7-1-2-3 |

A similar level of estrogen production in the postmenstrual phases of the respective cases was accompanied by well-being but was often not felt as sexual desire or sensation. We do not know whether the fusion of the heterosexual tendency with the eliminative tendency alone is the explanation for this observation. In this connection it is

interesting to note that in the male the goal of the sexual function is eliminative. Is it similarly eliminative and masculine in women during the premenstrual phase? We shall not answer this question. But in psychoanalytic literature one can find interpretation of the psychodynamic motives behind women's attitudes toward menstruation which corroborate such a concept. It is well known that emotional tension and excitability during the premenstrual phase are sometimes accompanied by great anxiety; fear of what will happen to one's own body, fear of mutilation, is the content of frequent nightmares at this time. These might be interpreted as a defense against menstruation which to many women has the psychological meaning of castration or even death. Thus the defense against being a woman, the wish to be a man, is in many cases the motivation of the emotional state before the onset of the menstrual flow. We evaluate another aspect of this when we realize that this material, independent of its importance for the formation of the personality, is usually repeated in the premenstrual phase in correlation with maintained but slight estrogen production. As we have shown, this premenstrual hormone state is a low hormone level; the integration of the sexual drive, which parallels it, may be regressed and reflect an infantile form of sexuality. The eliminative tendency may be perceived as an awareness of the impending bleeding, which then activates an emotional defense, while the estrogen activity may be responsible for the awareness of the penis, for masculine identification. Both tendencies may fuse to motivate the fear of castration. We cannot account for all the psychodynamic variations that correspond to this hormone setting. We have frequently observed the eliminative tendency expressed by urinary manifestations when the psychoanalytic material might be interpreted as masculine identification on a urinary level. The emotional manifestations may show great variety; depression, a sense of frustration, often develops as well as sexual tension and anxiety. These mood-swings, however, may in some instances be considered as secondary to the psychodynamic conditions. Thus the emotional manifestations of the premenstrual phase related to slight estrogen production and reduction of progesterone may be characterized (1) by an active sexual urge, more intense than would be expected solely on the basis of hormone production, and (2) by a masculine identification which represents a repetition of an infantile form of female sexuality.

2. *When the late premenstrual phase is characterized by increasing estrogen and maintained or minimal progesterone production*, this hormone state is similar to the preovulative phase. Its emotional manifestations may be that of an increased sexual desire fused with sexual receptivity. This premenstrual hormone constellation might

indicate an actual bimodality of the cycle. In our material we have observed only one such cycle—Cycle 5 of Case II (Table 23). In this cycle there was a normal ovulative period; during the premenstrual phase, high estrogen and an incipient progesterone production developed again, accompanied by emotional manifestations similar to that of the ovulative phase. There was an increased sexual desire and orgasmic capacity, a self-contented and narcissistic feeling. The menstrual flow was partly suppressed and so slight as to be unnoticed by the patient. We have observed other cycles with similar hormone and emotional conditions—for example Case XII, Cycle 8 (Table 39); Case VIII, Cycle 17 (Table 29). In these cycles the premenstrual hormone increase was, however, the only period of high hormone production and so they cannot be considered as bimodal cycles.

The emotional state of well-being and genuine sexual receptivity is, however, not typical of the premenstrual phase—not even when this state corresponds to increasing estrogen and maintained progesterone production. In all such cycles, except the few mentioned above, the psychosomatic condition was quite uncomfortable. For example in Case I, Cycle 8 (Table 19) and in Case VIII, Cycle 18 (Table 30) there was not a genuine sexual feeling; the patient complained of fullness of the genitals, which demanded a release by discharge. The feeling of impending menstrual flow was described as a “need to burst.” In relation to this hormone setting, which develops only after marked progesterone phases, the psychodynamic constellation may be described as follows: In accordance with the function of the maintained progesterone production, the retentive tendency continues and seems to hamper the relief of tension. Upon reduction of progesterone, the eliminative tendency becomes more marked. If the sexual tension cannot be released, its increases are accompanied by great anxiety and by aggression. Thus the sexual tension is greater than in other phases in which a similar hormone condition might prevail. Sexual desire now is fused with eliminative tendency, producing even more intense, impatient, and urgent sexual demands than we have described as related to the previous group of premenstrual hormone constellations when the estrogen production was slighter.

Our psychoanalytic material showed great variety. Corresponding to the high hormone charge, the manifestations of the sexual drive occur for the most part on a genital level. Recollections of parturition, dreams and fantasies about or defense against childbirth express the genital level of the eliminative tendency. We have observed, however, that the eliminative tendency is also expressed by anal and urinary fantasies and symptoms. Colitis, diarrhea, urinary urgency often occur during this type of premenstrual phase.

If the sexual tension can be relieved—and we assume that this is the case in many healthy women—the disagreeable premenstrual symptoms may not develop at all; the feminine sexual function may unfold and be accepted without the premenstrual revolt against it. In our cases we have observed anxiety increased to the point of desperation, aggression expressed in actual attacks of rage or turned inward with suicidal impulses; and we have seen how the intensity of these tendencies has created the need for stronger defenses against them.

3. *When the late premenstrual phase is characterized by a simultaneous decrease of both hormones, thus producing a low hormone level:* While in such constellations there is no sharp limit between the early and late premenstrual phases, their emotional concomitants show great divergence. The emotional state of this type of late premenstrual phase can often be characterized clinically as depression. In nearly all women there is a slight degree of slowing down of intellectual function and a lack of interest, for which, it is felt, general fatigue is responsible. The emotional responsiveness at this time is colored by tearfulness, by sensitiveness to being hurt, or crankiness. Our study has shown that this type of emotional reaction occurs in relation to low hormone level, and that among our patients there was individual variation in the intensity of the depressive reaction.

The psychodynamic material is characterized by the dominance of the eliminative tendency, which may show a great variety of manifestations. In patients whose personality structure has reached a genital level, and in cycles in which there is a normal or even long progesterone phase, the eliminative tendency may be expressed on a genital level. In such instances a feeling of genital loss may appear in the unconscious material. Weeping spells, which often accompany this depression, seem to bring some relief. If the eliminative tendency is expressed in anal terms, inferiority feelings color the conscious emotions; menstruation is considered dirty, the female genitals are regarded as worthless. This feeling, moreover, may be connected with strong destructive tendencies which may be turned either against the environment or upon oneself. Thus the low hormone level during the premenstrual phase may be accompanied by depressions of various clinical symptomatology, perhaps of a serious nature.

This description of the late premenstrual phase is not complete. There are, of course, further quantitative variations in the hormone conditions, and there is finer differentiation of the psychodynamic reactions. We have not even mentioned the well-known psychosomatic symptoms which develop during the late premenstrual phase, such as migraine, exacerbation of asthma, of skin conditions, and the like.

As we analyzed the psychological material during the sexual cycle, we estimated the hormone quantities according to the degree of emotional tension and the psychodynamic tendencies. This method was satisfactory even in estimating the fluctuations of low hormone levels during the early premenstrual phase. It was not adequate for prediction during the one or two days just before the onset of the menstrual flow. *The late premenstrual phase is characterized by a psychodynamic response more intense and more complex than one would expect on the basis of the hormone quantities alone.* We have used the term "premenstrual reaction" to denote the emotional tension characteristic of the late premenstrual phase which develops without a corresponding high charge of hormones. There is one psychodynamic characteristic by which we recognize that the psychological material was produced during the late premenstrual phase. This is the eliminative tendency. We have taken pains to explain that this tendency of the sexual drive is manifested in relation to low hormone production, and that it seems to represent a tendency antagonistic to receptivity. We have also discussed the assumption that the eliminative tendency supplies the heterosexual tendency with a quality of urgency, making the emotional equivalent appear much more intense than the respective estrogen and progesterone production would call for during another phase of the cycle. We do not believe that this psychodynamic explanation alone is sufficient to explain the psychology of the premenstrual state in which a deeper layer of the personality is exposed to the surface, as if the woman, at this time, were deprived of some of her controlling function. The psychic apparatus seems at this moment less capable of fulfilling its task, namely, of adapting itself to the demands arising within and without the organism. In a time of increased excitability of the nervous system, gratification must be adequate to meet these demands or great emotional tension may develop.

Phase of the Menstrual Flow

After the onset of the menstrual flow, the excitability decreases, the tense, fearful mood relaxes, and the hostile or depressed emotional state is usually relieved. An observation, not widely accepted but true for our cases, is that adult women accept the menstrual flow, once it starts, with emotional relief. Fear, apprehension, and rebellion against menstruation may have dominated the premenstrual phase, but these feelings recede after the flow is established. This emotional relaxation corresponds to the sudden decrease in hormone production that ushers in the flow. We have observed that even in cases in which symptoms of dysmenorrhea—cramps, pains—are sustained, the anxiety and de-

pression do not continue. On the contrary, these patients often report sexual fantasies which they had during the period of dysmenorrhea. This is not surprising if we realize that in cases of dysmenorrhea the estrogen production often increases during the menstrual flow.

The hormone production during the menstrual flow is characterized by variable quantities of low hormone level similar to that of the early premenstrual phase. The psychoanalytic material shows variations in relation to the hormone conditions, but they are not very characteristic. For example, "castration dreams," which are typical of the late premenstrual phase, occur only seldom after the second day of the flow. If the hormone level remains low, the feeling-tone of sadness and loss may prevail. Womb fantasies, nursing fantasies, the wish to care for a baby, are commonly expressed, especially in the psychoanalytic material of the second or third day of the flow. In many cycles, however, the estrogen development has already begun during the flow, and parallel to it a state of well-being arises, and with this, a sexual stimulation suggesting the beginning of the next cycle.

Summary and Conclusion

We have described the course of the hormone cycle and the parallel evolution of the emotional cycle, which together create a psychosomatic unit, the sexual cycle of woman. We have previously shown (Chapter 5) that the diversity of emotional manifestations can be correlated with specific variations of hormone production through their psychodynamic motives, and that these psychodynamic motives represent the manifestations of the sexual drive. *The interpretation of the hormone and emotional processes during the course of a sexual cycle reveals a cyclically returning evolution of the sexual drive.* The sexual drive begins with the manifestations of active sexual energy. Emotionally, the adequate expression of this tendency is heterosexual desire. At about the time of ovulation, the sexual drive unfolds completely, that is, it is actively directed toward the sexual object and at the same time has strong receptive qualities. This is the point of highest integration of the sexual drive. After ovulation has occurred, the sexual drive, as well as its psychic manifestations, comes into the service of the biological task of nidation; a narcissistic, self-centered state develops which constitutes a biological as well as an emotional preparation for motherhood. Comparing the active emotional manifestations of the preovulative phase with those emotions accompanying the progesterone phase, the latter may appear as a regressive process. It is, however, the biological characteristic of woman that her propagative function requires that she remain concentrated upon

herself for the period of pregnancy, for the duration of the progesterone phase which is its cyclical equivalent. The ovulative, post-ovulative, and progesterone phases create a plateau in the hormone cycle and represent the genital level of integration of the sexual drive. After this, hormone production diminishes and the energy of the sexual drive recedes. Compared with previous phases of the cycle, the premenstrual phase exposes the less integrated manifestations of the sexual drive and with them a diminished integration of the total personality. Indeed, during the late premenstrual phase the ego appears weak; it is as if the woman were exposed to every stimulus through an increased sensitiveness. The whole psychosomatic personality seems to regress to a deeper level of hormone and psychic integration. The menstrual flow itself gratifies the demand of the eliminative tendency, which during the premenstrual phase—so it seemed to us—increased the emotional tension. During the menstrual flow or just at its abating or after a short interval of low hormone level, the new cycle starts its course.

The unconscious motivation of the ebb and flow of emotions during the sexual cycle is a gradually increasing integration of the sexual drive and its regression to partial tendencies. Theoretically one would expect that, according to the evolution of the sexual drive, its emotional manifestation—the sexual desire—would yield a simple curve, beginning with incipient estrogen production, reaching its peak at about the time of ovulation, and then receding. This is, however, not quite so. Our investigation of the sexual cycle sheds some light upon the problem of the "bimodal curve" of sexual desire. We do not wish to discuss the motives which cause stimulation independent of the psychosomatic need, such as actual stimulation, the partner's expectation of coitus after the interruption during menstruation, the utilization of the "free period" which shifts the anticipation of sexual gratification to a time when the woman is physiologically less capable of orgasm. These and many other motives originating in intricate human interrelations do not belong to the scope of this work. Here we summarize the psychosomatic motivations of sexual desire as we found them in the various phases of the sexual cycle.

1. The psychic apparatus reacts strongly to incipient estrogen production. In response to this, fantasies and wishes become so keen that women have an acute awareness of sexual stimulation at the beginning of the cycle.

2. If this desire is satisfied, the emotional manifestations of the increasing hormone production are less intense, thus reducing the awareness. If it is not satisfied, the emotional reaction to the disappointment may be depression, a withdrawal from the partner, so that

the manifest feelings will not be recognized as sexual desire. In a satisfactory sexual partnership, frictions might be eliminated at a time when the woman is more capable of love, that is, during her ovulative and postovulative period. There is great variation in the subjective evaluation of desire at this time. Some women recognize increased sexual desire by the urge to incorporate, by the intensity of the emotional tension; others do not mention it because they cannot recognize increase of sexual desire when the quality of urgency is lacking.

3. In contrast to the manifestations of sexual desire during the ovulative and postovulative phases, sexual desire in the premenstrual phase often takes on a quality of extroverted activity and urgency. There is a great awareness of sexual feelings which women often report. We have found that these qualities of the sexual desire at this time only seldom represent reactions to adequate quantities of hormone. Usually they develop in spite of low hormone level. The explanation for this phenomenon may be (a) the fusion of active sexual tendency with eliminative tendency which gives the sexual feelings a more masculine character; (b) the regression of psychosomatic processes in correlation with endocrinological processes; (c) the increased excitability of the nervous system, which may be responsible for the impatient demand for gratification. What thus appears as sexuality may be only a general nervous irritation. This is quite obvious in those premenstrual phases in which slight depressions develop, when the emotional condition may be expressed as sadness, producing manifestations of passive dependent feelings. This condition may be interpreted as sexual desire, especially if the sexual partner so reacts to it (Tinklepaugh, 1933). The end of the sexual cycle is marked by menstruation, during which the woman is sexually taboo, and her sexual desire—if it develops—has to be warded off.

The heterosexual desire is only one component of the sexual cycle and it is often alloyed with or replaced by emotions which are also sexual in origin but have as a goal conception, pregnancy, and motherliness. These manifestations of the sexual drive have been described and discussed here for the first time as a part of cyclically recurring genital integration of the sexual drive in women.

The evolution of the normal sexual cycle seems to force the emotional processes of an adult woman into regulated channels. We must emphasize, however, that this presentation is an abstraction. Sexual cycles show great variety in physiological characteristics and also in emotional manifestations. The variations of the sexual cycle, however, will be discussed more profitably after the relationship between the development of the personality and the sexual cycle in individual cases has been presented.

CHAPTER 9

PERSONALITY STRUCTURE AND THE SEXUAL CYCLE

In this chapter we shall present the developmental history of seven of our cases in detail. In the general survey of our material, we showed that the subjects of this investigation sought psychoanalytic treatment for various complaints, for different emotional disturbances. Their symptoms belong in different nosological classifications, their personality structures are diverse. This variation in our material gives us opportunity to study (1) the interrelation between psychogenetic development and the gonadal cycle, and specifically (2) how the psychodynamic material of each person is reflected in her cycle. Thus we attempt to correlate the hormonal, the psychodynamic, and the emotional course of the sexual cycle for a limited number of cases.

Ordinarily, psychoanalytic case presentations serve the purpose of reporting evidence of specific psychodynamic conflicts as they are correlated with specific symptoms or with specific neurotic constellations. Hence, however, we shall endeavor to demonstrate the evolution of an individual's sexual development from its earliest manifestations to its mature state. In order to do this we must put emphasis upon those cross sections where the fixations, the developmental disturbances, have occurred. It is self-evident that psychological material pertinent to a given cross section of personality development will be produced repeatedly and at different times during the psychoanalytic procedure. Conscious memories are reported again and again, while repressed and forgotten emotional experiences work their way slowly into consciousness. We present the case histories in the chronological order of the personality development. So far as possible, we evaluate all the dynamically important facts belonging to specific developmental phases in order to study how the interplay between psychic and growth-processes influences the sexual cycle.

Case I

This patient was accepted for psychoanalytic treatment in order that we might study the relationship of her emotional disturbances and psychosomatic symptoms to the menstrual cycle. For many years

she had sought medical help for an emotional disturbance which was characterized by alternating depressed and alert periods. She had many psychosomatic symptoms: nausea; constipation; feelings of constriction in her throat, which sometimes amounted to a sensation of choking; muscle pains in various parts of the body; skin rashes of an indefinite nature; pruritis ani and vulvae. According to her own observation and to previous medical findings, all these symptoms were unrelated to her menstrual cycle and independent of the time of the menstrual flow.

History of Symptoms: The patient remembered having had mood changes even before her marriage. At that time they were not so severe as they had become during the eight years before treatment. She had been sick since the birth of her child, eight years before the psychoanalysis.

She experienced her first depression at the age of twenty. Her main symptom then was a hypochondriacal fear of cancer. It was during her pregnancy that she suffered the first severe mental disturbance. It is interesting to note here that she talked about this period quite timorously, not only in the first consultation but also later in the analysis. She said that during pregnancy she was in a state of "extreme suggestibility," she reacted to everything she heard and read by identifying herself with it, and so felt constantly that anything could happen to her. Usually factual in her description of her condition and inclined rather to exaggerate her symptoms than to diminish them, she gave the impression that she was still extremely afraid of a recurrence of the emotional condition that she had experienced at that time. It had been about in the middle of her pregnancy that she was seized with a severe anxiety attack. This was activated by a story told by her mother: "When a pregnant mother has a feeling of heartburn, the baby will have too much hair." The patient immediately felt that she was being choked by the hair of the baby. Soon after this she had an overwhelming anxiety, the content of which was that this baby was not the child of her husband but of a Hindu with whom she had had a superficial flirtation although no sexual relationship. She felt she could never overcome her fear and shame, and her thoughts took a suicidal trend. She feared she would become insane. She developed a series of compulsive techniques to control this frantic fear. She had many crying spells and was afraid that she would shout out her secret about the child and about her condition. She came to labor at the normal term, but had an extremely difficult delivery, during which she had several periods of desperation. After the child had been delivered spontaneously, she had a short period of elation when everything seemed clear in her mind. But this state did not last long. She

was overcome soon with the fear that she would murder her child. With all her will power she struggled against a feeling that her hands were being drawn to the child. This impulse and the concomitant anxiety slowly diminished, but only after the baby was six or seven months old could she trust herself to be alone with it. Up to this time she had hesitated even to go near the child or to touch it. At the same time, she had a fear of kleptomania; she had the sensation of a strange force pushing her hands to take something away, the same type of impulse that she felt pushing her toward her child. This neurotic reaction also receded slowly.

The other chief symptom after the birth of the child was constipation, accompanied by severe cramps. A diagnosis of gallstones was made, and when the child was eight months old she had an operation in which the gall bladder and appendix were removed. Her psychic condition did not improve, however; she continued to feel fatigued and depressed and took pleasure in nothing. Other operations followed: a vaginal plastic was done, her tonsils were removed; yet her symptoms were not relieved. She finally became aware that she was mentally and not physically ill. She thought she might cure herself through sexual gratification and so entered into several extramarital affairs. She had two abortions in a relatively short time, after which a friend advised her to be sterilized. This was the last of her operations. She had hoped that sexual freedom without the fear of pregnancy would cure her depression, but after the operation she lost interest in sexual affairs. Her relationship to her husband and to her child became very much improved, but neither her mood swings nor the variety of her psychosomatic symptoms disappeared. She went to several of the best clinics for medical examination, the findings of which will be summarized below.

Anamnestic Data: The patient's father had severe diabetes. Several members of his family had asthma. A sister of the patient's mother had developed a psychosis. The signs and symptoms in the case of our patient were diagnosed as a mixture of psychological, vegetative nervous system, and glandular disturbances. She showed a labile but occasionally lower than normal blood pressure, spastic colon, increased tolerance to heat, deficient muscular coordination, fatigue syndrome, trochanteric type of fat distribution, and a history of previous hypomenorrhea. Physical examinations and laboratory tests did not show any constant or definite abnormality of the endocrine and vegetative nervous system, but rather an instability or imbalance. The basal metabolism rate was normal both before and during the psychoanalytic procedure.

History of Menstruation: The patient started to menstruate when she was twelve years old. She could not remember any strong psychic reaction to the onset of menstruation. The menstrual flow was scanty, irregular, and of short duration. Only after parturition did the flow become normal. After sterilization it became scanty again. It is interesting to note here that the first menstrual flow during the analysis was excessive and that it remained profuse during the whole analysis. At the beginning of the analysis the change was so conspicuous and the flow so copious that the patient was advised to have a gynecological examination, which, however, showed no pathological changes.

Family History: The patient was the third of five children in a Jewish family. The father, with his newly married wife, left Austria to live in England, where four of the children were born. When the patient was four or five years old he left the family and came to the United States, where the family followed him when the patient was seven. The father was a passive, colorless sort of person, though he often lost his temper. His role in the family was not very important. The mother was a basically strong, vital, colorful personality. She came from a family of Jewish scholars in Russia and felt that she was therefore an aristocrat. She kept this feeling of self-assurance in spite of all the hardships she went through in her poverty-stricken youth. She married her young husband when she was sixteen in order to get away from her home. Her husband loved her, but he was not successful and did not provide well. She always felt that she must give. She liked to be a big customer in the stores, and she always maintained that her children had to have strawberries in February. She wanted to feel the gratitude of her neighbors and in order to achieve this she always tried to live in neighborhoods where people were even more in need than she was. She liked Negroes because she could play the role of benefactor. In her home there was always at least one roomer who was unable to pay his rent. This extremely vital person was quite free in expressing her emotions. She was proud of the fact that she nursed her children for a long time—for about two years each. She was self-sacrificing, but liked to talk of her generosity. Her love and hatred, her indulgence and her threatening impatience, kept her children in a constant state of turmoil.

The first child, a girl, had died in infancy; the second, the patient's sister K., one and a half years older, was one of the mother's favorites. She—much better than the patient—understood how to stay on good terms with her mother. This gave the older sister domination and control over the patient. Later on, the patient became a more inde-

pendent personality and was often asked by the mother to be considerate toward K., who was actually so inhibited that the mother feared she would not marry early. The next younger sister, two years younger than the patient, was much loved by the whole family because she was a beautiful child. The patient always had an excellent relationship with her, was very proud of her, and protective toward her. When the patient was eight years old, after the family had been in this country about one year, the first boy was born, the fourth child, the only son of the family. He became the center of the mother's interest. His birth and early childhood were responsible for the decisive neurotic fixation of the patient.

Developmental History: The patient was a rejected child. The mother never tried to make a secret of the fact that after having had two daughters, she wanted the third child to be a boy. Her disappointment was great when the third girl came, and it was increased by the fact that she was a homely baby. When the patient was a little child she heard her mother say that she expected the doctor to kill the baby because it was so ugly. This outburst of the impulsive mother threatened the child and made a deep impression on her. Repeatedly in the analysis, in dreams, and in other material, the patient said, "I was a disgrace to my mother."

Of the early development of the patient, we have only a few facts. She was breast-fed for two years. How much of the mother's rejection was noticeable to the child in those early years, we could not establish. There were no signs of early developmental disturbance; her toilet training was accomplished easily and at the normal time. Nor did we discover any early emotional reaction to the birth of the next younger sister. She remembered only the great affection which everyone in the family had for this beautiful baby. It may have been that she did not develop a great rivalry with this sister because she was so grateful that the sibling was not a boy. However, it seems likely that narcissistic identification with this sister protected her from rivalry. Her early childhood, spent in the slums of an English city, was far from happy. It was beset with humiliation, threats, and dangers against which she built up narcissistic defenses. Her mother teased her because she was homely; her nose was too big. She longed to be beautiful and angelic. She remembered that she sometimes would get out of bed in her long white nightgown and go out of doors with the wish that everyone would think that she was an angel. She felt threatened by the sexual dangers of the neighborhood. She remembered a big empty factory where the children used to go for secret plays. Sometimes she was a part of the play, at other times she felt outside. She always wanted "to be better" than the group. She

recalled vaguely that a man came to this factory and "did something to her." The vagueness of these memories can be explained partly by the intensity of similar memories in her later life after she had come to this country, and partly by the strength of her narcissistic defense: to be better than the other children. This defense also served to suppress all early memories connected with her father. Her recollections of him, which showed a powerful fixation to the oedipus phase, belong to a later age, to her preadolescence. It is perhaps because the father went away when she was four years old that his figure was blended with the man in the factory who "did something to her" and with other dangerous men in the neighborhood. Ambivalence toward the mother developed early. After the father left the family in order to make a new life in the new country, the patient remembered how her mother would lie in bed complaining that she was hungry, that there was no food in the house, but she would not recall that she or her siblings ever were starving.

When the patient was seven, the mother and the three children left England and came to New York to join the father. Sexuality now came alarmingly close to her. The family lived in poor circumstances with various relatives in a crowded "colored" neighborhood. Her memories are filled with crowds of people struggling for existence, expressing their sexual needs in uninhibited fashion. The primal scene was no secret to her. However much she wanted to close her eyes and ears to it, she knew that "father and mother made up for everything in bed." Her mother discussed her sexual life frankly, and the patient understood early that the mother's acid remarks against the father were expressions of the fact that she was sexually unsatisfied.

The patient strengthened her defense: she tried to be better than her neighborhood associates. This caused difficulty in her social adjustment in school. The children teased her for her British accent, for her "fine" speech; she was excluded from their games and from their sexual activities. But the "slums were exciting; so many things were always happening. Boys and girls together locked the door. I was not admitted. I was always different." She made fantasies about sex, always in a romantic way, but never spoke of it to anyone. Thus she came to have only a half-knowledge of sex; she would ask herself: "What does it mean to do bad things? What does it mean to have sex relations? . . . It is something that was going on and on—yet I did not know what actually happened." Her knowledge of sex remained vague until she married. But this defense against sexuality could not last; it crumbled away when her brother was born. The patient remembered the birth of the baby, but more important than this, she

recalled the parents' reaction to the first son. "He was the apple of my mother's eye." She pampered him in every way. She did not even give him proper toilet training; he soiled himself until he was three or four. The responsibility for this training was left to the girls. The situation was made harder because of the mother's uninhibited admiration for the little boy's penis which she even fondled in the presence of the girls. This was perhaps the most decisive emotional experience of the patient because she then understood why the mother wanted to have a son and felt keenly what she herself lacked. Her desire to be a boy, to have a penis, was conscious and ardent. Greatly disturbed by these feelings, she was exposed to another trauma during the same period. As we have said, the mother was friendly to Negroes. One Negro who came to work in their home became a friend of the family, especially of the mother and the baby. The patient remembered jokes and superficial intimacies between her mother and this man. She remembered also how tenderly he played with her little brother, who used to sit on his lap. The sisters of the patient thought of him simply as a friendly playmate, but for the patient he had a deeper importance. In the analysis her dreams clearly showed that in her suppressed fantasy this man was the father of the boy. This conflict later manifested itself conspicuously in the patient's anxiety during her own pregnancy.

The patient, who was envious and jealous of her mother's sexual life, experienced a revival of the oedipus desire; she wanted to have sexual relations with the Negro. This sexual desire expressed itself in a wish to be in her mother's place in relation to the father and to the Negro as well as to the little brother. On the other hand, she wished to be like her brother. All this activated her sexuality so forcibly that she began to masturbate. At about this age (nine or ten) the patient had scarlet fever and was sent to the hospital. There the nurses spoke to the children in the ward about masturbation and told them that they should not do this lest they become pregnant. From this time on the patient was afraid she would become pregnant whenever she masturbated. Masturbation, impregnation, and the oedipus guilt which was projected to the Negro became a forever-connected complex. Her masturbation, the guilt and fear connected with it, and the sexual atmosphere of her home kept the girl in a constant state of excitation. One evidence is that she became a sleep-walker. Once, walking in her sleep, she got into bed with one of the roomers. Nothing happened. The man was asleep and the patient awoke in his bed. When the patient was ten or twelve, in her curiosity about the genitalia of the brother, she seduced him to sexual play and attempted to have intercourse with him. On the other hand, she hated

women, she hated to be a girl. "I was known as the girl who always talked about wanting to be a boy. At that time, just as now, I wished to have a penis." This sexual activity, although it was active and aggressive toward her brother, served chiefly to satisfy her need to be like the mother—to have the mother's sexual life. At about this time she was sent to live in the home of a cousin. The obvious purpose for this change was to decrease the tension in the family caused by her temper tantrums which had now reached a climax. She repeated the same seductive play with the little son of the cousin. She spent her time daydreaming and felt happy there. When she returned home she felt estranged. She recalled having felt the same fatigue then that she complained of at the beginning of her analysis. This was just before the onset of menstruation.

The preadolescent development of the patient centered about the birth of the brother. This event activated the oedipus conflict which she later projected to the Negro. This forbidden father-image became the driving force in her fantasy, but the identification with the mother in relationship to the Negro meant for the patient the danger of pregnancy, which then became the chief cause of her defense against feminine sexuality. The repression of sexual desire and the desire that her brother should be her own son by the Negro caused complications in her sexual development and were important determinants of her later neurosis. The defense against feminine sexuality increased her desire to be a boy and dominated her ego development. She became tomboyish. She tore her dresses, she won the best races. She overcompensated her fears; for example, she was afraid of water, but she became the best diver in the class. Her superior intelligence and linguistic ability enabled her to be a good student in spite of her preoccupation with sexual fantasies. But at home, in the family, she had no importance. Her mother teased her and her older sister dominated her; the brother was indulged and preferred. There remained for her only the role of the protector toward the next younger sister. Her relationship with her father was not any more satisfactory than that with her mother. He was weak toward the mother but lost his temper with the children. Punishment by the father humiliated her just as her mother's teasing did, but she repressed her masochistic fantasies as well as her inferiority feeling and reacted with violent temper tantrums. She felt rejected by her mother and therefore hated her, but her instinctual need drove her in the direction of reidentification with the mother, to seek gratification from men. Repeatedly during the analysis, she became conscious that her sexual feelings, her femininity, was burdened by this hatred toward the mother. She hated herself for becoming like her mother. It is im-

portant to note that the dynamic conflict originating in this developmental fixation remained on the genital level. The patient's psychosexual development did not regress to the preoedipal phase.

When the patient was twelve years old, she started to menstruate. She did not react strongly to this event which was neither unexpected nor traumatic for her. Her menstruation was scanty and of short duration and she suffered little from it. Whether this scanty menstruation was the psychosomatic expression of her defense against being a woman, or whether it was the reaction to her wish to be a boy, we do not know. In spite of her manifest desire to be a boy, it seems that after the stormy preadolescent period—between thirteen and fourteen—she quieted down when her menstruation was established. She had a great desire to be loved. She tried hard to make an adjustment to her mother, worked very hard, would do all the despised housework for a day or so—all to please the mother. She would be proud and sure of her success until, at the end of the day, something always happened which would prove to her that she had failed, that her mother did not like her after all. Then she felt sorry for herself and often cried herself to sleep, longing for love. Such reactions, however, are normal for the adolescent girl. This patient's adolescence had no serious regressive or depressive qualities, as we can see from her satisfactory ego development at that time. Her intellectual curiosity and her ambition were awakened and she was successful in school. These facts furnish evidence that her psychosexual development did not regress but remained at the genital level when she reached her adolescence (see Cases VII and VIII). During this time she developed only one neurotic symptom: she vomited easily and "always on an emotional basis." She became nauseated whenever something exciting, disgusting, or depressing occurred at home or at school. "It was the easiest way to get rid of the excitement."

In her high-school years she fell in love with a high-school boy, O.—an important experience. O. was emotionally aggressive, wanted to be masculine, to appear older than he was. Theirs was a romantic adolescent love. With all the inhibitions of a young girl, she enjoyed and cherished this idealistic love. When she was about sixteen the boy left town to live with his family in another city. This was at the time of the patient's graduation from high school. She began work, but went from job to job, finding them all monotonous. Sometimes she worked poorly because she was lost in daydreaming; sometimes she became stubborn and resistive when she had a woman superior. Her fantasies were obsessively sexual. "When I was sixteen years old I was always conscious of the penis. This made me self-conscious in the presence of men. I was afraid that they would notice it." Her

awareness of the penis, her dependence on the male for sexual gratification, activated and increased her revengeful attitude toward men. She played with men, she aroused them, but she did not give them sexual gratification. When she was about nineteen, O. came back. They were still in love with each other, and he begged the patient to permit intercourse. She wanted to be overwhelmed by him, but she wanted this to be entirely on his responsibility. This he could not do. He begged her; then he told her that another girl would allow him what he wished. The patient, in a rage of jealousy and pride, said she would never see him again. But she hoped he would come back; she was sexually aroused and longed for him. She became restless. Then she found a job which fulfilled her ambitions, teaching adults in a private school. The work was a great strain but it satisfied her narcissism. She was admired by many of her pupils; she was gay and flirtatious. She played with everyone—from the director to the students. She then decided to marry the one whom she was least afraid of. "He was the antithesis of O.," she said. O. was ruthless; this man was gentle. O. was demanding; her fiancé always gave in to her. She recognized the difference and she still loved O. She and her fiancé had sexual play together. She became nervous and her irritability and tension increased steadily until she had her first nervous breakdown. One evening she and her fiancé were at a restaurant where they ate something sweet. The patient felt sick. Though she often vomited, this time she was panic-stricken, yet she did not know what it was she feared. She vomited profusely. The acute panic subsided, but the patient became depressed and developed a hypochondriacal fear that she had a cancer. "I could not localize the cancer but I had the feeling that it was eating itself into my body and something terrible would happen. Everybody seemed safe but myself. I was in deadly danger." Her doctor recognized that something sexual was behind this fear and he told the patient she should not permit her fiancé to make love to her. He agreed. After six weeks the patient quieted down and went to work again. The fear of cancer disappeared but she did not completely recover from the depression.

This breakdown had all the characteristics of an *actual neurosis*; it was activated by an increased amount of frustrated sexual excitation. Whenever a mounting sexual tension was not satisfied by orgasm, she had neurotic symptoms. The neurotic mechanism was as follows: increasing sexual desire created in her the need to incorporate the penis. Since this was inhibited, tension was heightened and changed the incorporative need to an impulse to bite off the penis. This was the repetition of her childhood fantasies related to her brother. Thus the genital wish to have the penis activated the oral incorporative

tendency, and through this the dynamic conflict was displaced from the genital to the gastrointestinal system. The oral receptive tendency activated the oral defenses, as we could see from the vomiting and the fear of cancer. She felt that the cancer was a dangerous growth which would consume her. This psychodynamic conflict occurred repeatedly during the analysis.

After her recovery from the acute phase of the breakdown, she and her fiancé decided to marry. The patient cherished her fear of sex and her romantic attitude toward marriage as a token of her being better than her environment. She was excited and full of expectations; but she was disappointed. They did not have intercourse before marriage; both had been frightened and shocked by the patient's previous nervous condition. In spite of a difficult wedding trip, she was childishly proud that she was now no longer a girl but a married woman; she had achieved a state in which her mother would have to treat her as an equal. This narcissistic gratification did not last long; after a few weeks she became depressed. Though her husband had "capacity for unlimited sex relations," her disappointment continued and she became passive and frigid. The husband was oversolicitous and cared for her "like a mother."

The patient became dependent on the husband, but her sexual desire was split off from this relationship. The analysis showed, as we have mentioned, that this division in her heterosexual emotions started much earlier and that it determined her choice of a husband. These emotional difficulties continued throughout the marriage. She kept up her demonstrative, flirtatious attitude toward men. She once took a hiking trip in the company of some friends, men and women, but without her husband. One friend, a Hindu, engaged her in sexual play, and the patient had an orgasm without intercourse. After this experience the patient menstruated normally. She felt guilty about the flirtation and was afraid her husband would become cool toward her. She thought she should do something for him and so wanted to become pregnant. This idea was in accord with one of her sexual fantasies: that pregnancy gives the woman power over the man. She was so childishly proud of her decision that she assumed she was pregnant before she actually was. When she did become pregnant she was happy, and though she vomited "bitter bile" every morning, she felt emotionally serene until the middle of her pregnancy. About this time her emotional condition changed. She revealed her pregnancy to her younger sister and began to enjoy the role of a pregnant woman, for it made her the center of attention. Whether it was this increased self-observation and the centralization of libido on herself that were responsible for the changed emotional state, which

the patient timidly called "increased suggestibility," we do not know. In any event she related to herself everything that she heard or read and identified herself with it. On one occasion, when some women in her mother's house were talking about superstitions regarding pregnancy, her mother said that when a pregnant woman feels heartburn she will have a child with a great deal of hair. The patient actually felt the hair in the uterus. "It was smothering me. I felt a floating sensation and panic. No one noticed it." From that time on her anxiety was continuous. Once she heard about a white woman who had given birth to a Negro child. This increased her anxiety; she was convinced that her child was not her husband's but the Hindu's; that her child would be stigmatized and that she would be unable to conceal her sexual guilt. The next day she awoke with a choking sensation, and although she struggled for some days against this obsession, it returned with greater intensity. "H. is the father of my child." For a whole night she shook with a chill which was followed by a fever. The panic lasted through the next day with the same violence. She could not bear it, and so confessed it to her husband. She told him the whole story—how far the relationship with H. had gone, that she was sure she had menstruated several times after the hiking trip, but that still she could not get rid of the idea that something must be fundamentally wrong with her. The husband remained calm, considerate, helpful; but his kindness did not allay her obsessive fears. She struggled to hide her distress from those around her—for two reasons: she thought they would think her insane and she was afraid to expose her secret, for she was emotionally convinced that the child was the Hindu's. She was in a state of suspense between the obsessional idea, which was psychotic in character, and her insight. It was a tormenting struggle. The patient described it during the process of the analysis again and again—how she had concentrated all her power on clinging to the insight in order not to be submerged in the panic. "Self-control is the only possible way of keeping cool when I am in a frenzy." She struggled to divert herself but the fear increased so much that in the eighth month of her pregnancy she wondered whether she would not murder the baby.

Another emotional change should be noted here: though she had never felt close to her mother until her pregnancy, she now felt love and great understanding for her. She wished to have a son in order not to disappoint her mother. This wish intensified the identification with the mother, which in turn increased her anxiety. Her childish jealousies of her mother's sexual life had created the idea that the Negro was the father of her brother; now she was obsessed by the idea that her son was the child of the Hindu.

The content of her obsessional thought during pregnancy was a repetition of her infantile conflict over her mother's pregnancy. This was not the first time that this conflict had motivated her fears; it had been the content of her masturbation fear; it had exacerbated the hypochondriacal fear during the depression before she was married. This psychodynamic conflict remained highly charged with emotion in the analysis; it was repeated in almost every cycle.

The patient came to labor at the normal term. After the delivery of her child she felt relieved and happy; she felt that she must and could forget the nightmares of her pregnancy. But her happiness did not last long; on the third day she became panic-stricken again. She was overwhelmed by the obsessional idea that she was going to kill the child. She felt tremendous pressure on her chest. She pressed her teeth together in order not to shout out her tormenting secret. Even later, in her analysis, she complained about pressure on her teeth and about muscle tension in her jaw and neck, irradiating to her shoulder—faint repetitions of pain which she had felt after childbirth. Some days later she developed a sensation in her hand which she felt was directed toward the child. This fear was so great that she did not dare go near the baby. These compulsive movements in her body, the tension of muscle cramps in her back and arms, continued to persist to a later period. The mental torture was so unbearable that physical pain, however intense, seemed to bring relief. The muscle tensions and spasms continued and created a psychosomatic symptom-complex. The spastic condition caused constipation; the attacks were diagnosed as gall bladder colitis. When the baby was eight months old, her gall bladder and appendix were removed. After the operation the anxiety and obsessional idea to kill the baby slowly subsided; she could sometimes bear being alone with the child. The patient's behavior toward her son was in direct contrast to the behavior of her mother toward her brother. She was afraid to touch his genitalia, and she was anxious lest others who took care of the child might do so; this became an obsessive fear. Her husband's attitude toward her during this time was one of great consideration for a sick person who needed care.

About this time she fell in love with a man who was very much attracted to her. This man, B., was much older than she, a father-image. Her relationship to him was passive and masochistic; her sexual response was complete. She wanted to divorce her husband and did separate from him to go to B. She became pregnant and this time was proud and happy; she wanted to have the child. In the beginning of this pregnancy she had none of the fears and obsessions which had haunted her before. But B. wanted her to have an abortion,

to which she consented. Her sense of regret and loss was deep, as was later shown in the psychoanalytic material. Shortly after the abortion she gave up her relationship with B. and returned to her husband, the only person she could depend upon. She now developed a desire to become healthy and believed that her health was dependent on her ability to have orgasm, which she had never had with her husband. Again she sought extramarital gratification, yet she was always haunted by the fear of becoming pregnant. One doctor advised sterilization to cure her of this fear, and the patient submitted to the operation. Thereafter she lost interest in extramarital relationships. She now concentrated her interest on her family and on her work and tried to make a better adjustment to her husband and child.

She continued to feel sick and to suffer from mood swings and from the variety of symptoms already described.

Summary of Developmental History: We have described five transverse sections of the patient's development, which appear in tabular form below. As this summary shows, we conclude that the sexual development of this patient reached the genital level of integration. All the symptoms were motivated by a genital conflict: by the competition with the mother for heterosexual gratification and for pregnancy. This conflict exacerbated her pathological condition and forced her into a characterological defense—a masculine identification and competition. The behavior of this patient, her revolt against physiological and emotional womanhood, would mark her as a "masculine woman." As we have said, she talked about her "bisexuality" as if the "man," the "incorporated penis," had in her a quite independent existence.

The repetition of her sexual fantasies gives contrary evidence. Her masturbatory fantasies were from early childhood masochistic in character, consisting chiefly of punishment from a stern, powerful man. Her fantasies became more and more elaborate as she grew older. In her late adolescence the masochistic fantasy was combined with the pregnancy fantasy: the cruel man became tender to the woman because she was pregnant. One of her favorite fantasies was like a little romance: "I liked someone else, but I married a man because of his money. He found out about it and was bitter and became strict with me, ignored me, and beat me. I had to cook for him. I was humiliated, but then I became pregnant and he stayed with me." Here the daydream ends.

This fantasy clearly shows an important juncture of her sexual development. In it there is a conflictful relationship to a man: she wants to be independent but this makes her feel guilty, humiliated, and dependent on the man. Pregnancy is the secret power which

would make her feel superior to men, just as she felt her mother was superior to men because of her ability to have children. Pregnancy gives her narcissistic gratification and defends her from being hurt by men.

| DEVELOP- MENTAL PHASE | THE TRAUMATIC EXPERIENCE | REACTION: REGRESSION TO | SYMPTOMS |
|-----------------------------------|---|---|---|
| I | Mother's rejection | Identification; narcissistic ego defense | No pathological symptoms |
| II Age, about 7-8 | Birth of brother. Display of mother's sexual interest in brother's penis and in the Negro | Revival of oedipus complex. Identification with mother on genital level. Competition with mother for sexual gratification and for pregnancy | Masturbation. Defense against feminine sexual desire: a) wish to be boy, —penis envy; b) fear of pregnancy |
| III Adolescence; Age, 12-18 | Heterosexual love on genital level. Obsessional interest in male genitals | Defense against heterosexual desire. Frustration. Increasing narcissism | Sexual frustration. Narcissism. Intellectual development is better than sexual adjustment |
| IV Age, 19 | Increased sexual excitement, frustrated | Regression to oedipus conflict. Repression of genital sexuality. Fear of pregnancy | Hypochondriacal anxiety. Vomiting. Depression |
| V | Pregnancy | Regression to oedipus conflict. Narcissistic cathexis increased. Pregnancy is experienced as manifestation of sexual guilt | Great anxiety. Obsessive about the father of her baby. Obsessive idea of murdering her child. Her further symptom development is defense against, and reaction formation to, this anxiety |

This fear of her masochistic tendencies actually drove her to a marriage in which her dependence was satisfied but not her need to be loved by a strong man. This desire was satisfied only once, in her relationship to B., but this broke off because B. did not want her child—that is, he interfered with the complete gratification of her feminine sexual needs. After this relationship had ended she used to have the following fantasy: "I was living with B. in a hotel apartment. I was pregnant. I was proud of my pregnancy, he was not. When his friends came to visit us, he was afraid for them to see me and asked me to go into another room. This I did, but I left him and went back to my husband. B. begged me to come back." This fantasy again shows the narcissistic gratification of pregnancy. Her fear of being exposed by the pregnancy, which played such an important role in her pregnancy-psychosis (or hysteria), is in this fantasy projected to the man.

Not only these fantasies but also her actual experiences and behavior bear out the assumption that her masculine tendencies are reactive and represent revenge against men. After B. had hurt her,

after her deepest need to be a normal woman had been thwarted, her attitude of bitterness and revenge asserted itself. "I must have borrowed the pattern from B.," she said. "The men who had anything to do with me did not have a nice time of it. The more responsive they were to me, the colder I became. I think that's why all of them wanted to marry me." How fearful she was of becoming emotionally dependent on anyone can be seen from her readiness to be sterilized. In the independent and revengeful acting-out of masculine identification, she was disturbed by the possibility of pregnancy, pregnancy without love and pride. It seemed to her that the only way out of this unhappiness and depression was through a masculine sort of sexual independence. Because she wanted to obliterate her feminine self she gladly submitted to the sterilization. Yet the fact that she lost interest in extramarital relationships after this operation is an important proof of her deep desire to be pregnant.

In describing the life history of this patient in such detail we have tried to follow the course of her psychosexual development in order to show the relationship between her personality structure and her sexual cycles.

We have studied 25 cycles of this patient. Table 10 shows the variations in the cycles. Each figure shows the day of the cycle on which the hormone phase was estimated according to the headings.

We see that 20 of the 25 cycles were ovulative, and that in one (XXI) two ovulations were stated.¹ The length of cycles ranged from 21-37 days. Ovulation occurred irregularly, the range of the interval between ovulation and the next menstrual flow was from 8-24 days; the average 15.0 days. This irregularity of the ovulations and of the ovulative and progesterone phases is the most important peculiarity of her cycles to be discussed here. The first cycle of this patient was presented in Chapter 6 in detail. In the second cycle, the peculiarity is evident in that three days are listed on which ovulation could have occurred. There were three days of high hormonal charge and great emotional tension accompanied by typical preovulative psychodynamic material before relaxation. Irregularity is even more marked in Cycle IV, on the fourth and fifth day of which progesterone production could be recognized in the smear as well as in the psychoanalytic material. The smear was diagnosed as possible luteinization of follicle, but on the eleventh day ovulation occurred.² In Cycle VIII there is again a preovulative phase of six days duration. In Cycle IX the preovulative phase is short, while there is a progesterone phase of

¹ As we explained in Chapter 2, cycles are omitted when incomplete, such as Cycle XV.
² We do not present this cycle in tabular form because this was a period of vacation from the psychoanalysis. The predictions were made only on the basis of dreams which were reported in her diary.

TABLE 10

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|--------------------|---------------|---------------------------|-----------------------------|-------------------------|------------------------------|--|---------------------|--------------------|---------------------|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L. | Increasing Estrogen |
| I | 1 | 2 | 3, 4, 5, 6, 7, 8, 9 | 10, 11 | 12 | | 13, 14 15, 16 | 17 | | 18, 19, 20, 21 22, 23 | | 24 | |
| II | | | 3, 4 | 5 | 6, 7 8 | | 9, 10 11 | 12, 13, 14, 15 | 19 | 16, 17, 18 20, 21 22 | | 24, 25 26 | 27 |
| III | | 1 | 2, 3, 4, 5 | 6, 7 | 8 | | 9, 10, 11, 12 13 | 14, 15, 16, 17, 18 | 20 | 19 21, 22 | | 23, 24 | 25, 26 |
| IV | | 1 | | 2, 3 9, 10 | 11 | 4, 5 | 6, 7, 8 12, 13 | 14, 15 | 16, 17 | 18, 19 20, 21 22 | | 23, 24 25 | 26 |
| V | | 1, 2 | 3, 4, 5, 6 | 7 | 8 | | 9, 10 | 11, 12, 13, 14, 15 | 16, 17, 18 | 19, 20, 21 | | 22, 23 | 24 |
| VI | | | 1, 2 | 3, 4 | 5 | | 6, 7, 8, 9, 10, 11 | 12, 13, 14, 15 | 16 | 18, 19, 20, 21 | 17 | 24, 25, 26, 27 | |
| VII | 1 | 2 | 3, 4, 5 | 6, 7 | 8 | | 9, 10 11 | 12, 13, 14, 15 | 16 | 17, 18 19, 20 | 22, 23 24, 25 | 26, 27, 28 | |
| VIII | | 2, 3 | 4 | 5, 6, 7, 8, 9, 10 | 11 | | 12, 13 14 | 15, 16, 17 | 21 | 18 19, 20 21, 22 | | 26, 27, 28 | |
| IX | 1 | 2 | 3, 4, 5 | 6 | 7 | | 8, 9, 10 11, 12, 13, 14, 15 | 16, 17 | 22 | 18, 19, 20, 21 23, 24 25 | | 26, 27, 28, 29, 30 | |
| X | | 1, 2 | 3, 4, 5, 6 | 7 | 8, 9 | | 10, 11, 12 | 13 | 14 | 15, 16, 17, 18, 19, 20 21, 22 | | 25, 26, 27 | 28 |
| XI | | 1, 2 | 3, 4, 5 | 6, 7, 8, 9 | 10 | | 11, 12 13 | 14, 15, 16 | 21 22 | 23, 24 | | 25, 26 | 27 |
| XII | | 1 | 2, 3, 4, 5, 6 | 7, 8, 9 | | 10, 11, 12, 13 | | 14, 15 | 18, 19 20 | 21, 22, 23, 24 | | | |
| XIII | 1 | 2, 3 11 | 4, 5, 6 12 | 7, 8 13 | | 9, 10 14 | | 15 | 16, 17, 18, 19 | 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 | 20, 21 22, 23, 24 | 26, 27 | 28 |
| XIV | | 1, 2 | 3, 4, 5 | 6, 7 | 8, 9 | | 10 | | | 25 | | | |
| XVI | 1, 2 | 3, 4 9 | 5, 6, 7 | 8 | | 10 | | 11, 12 | 15, 16 | 13, 14 | 17 | | 18, 19, 20, 21 |
| XVII | | 1 | 2, 3, 4 5, 6, 7 | 8 | 9 | | 10, 11 12, 13 14, 15 16 | 17 | 19 | 18 20, 21, 22, 23 24, 25 26 | | 28 29 | 27 |

CASE I (Continued)

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|---------------------|---------------|---------------------------|--|-------------------------|------------------------------|-------------------------------------|---------------------|------------------|---------------------|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L. | Increasing Estrogen |
| XVIII | 3 | 1, 2 4, 5 | 6 | 7 19 | | | | 8, 9, 10 20 | 11, 12 16 17 | 13, 14, 15 | 18 | 22 | 21 |
| XIX | | 1, 2, 3 | | 4, 5, 6, 7, 8, 9 | 10 | | 11, 12 13, 14 15, 16 17 | 18, 19 | 20 | 22, 23 24 | 21 | 26 28 | 25 27 29 |
| XX | | 1 | 2, 3 | 4, 5 | 6 | | 7, 8, 9 10, 11 | 12, 13 14 | 16, 17 18, 19 20, 21 | 15 22, 23, 24 | | 25, 26, 27 | |
| XXI | 17 | 1, 2 | | 3, 4, 5, 6, 7, 8 | 9 18 | | 10, 11 12, 13 14 19, 20 21 | 15, 16 22 | | 17 23, 24 25, 26 27, 29 | | 30, 31 | 32 |
| XXII | 1, 2 | 3 7 | | 4, 5, 6 11 | 12, 13 | 8 | 14 | 9, 10 15, 16 | 19, 20 24, 25 | 17, 18 21, 22 | 23 | 28 29 | 26, 27 |
| XXIII | | 1, 2, 3 | 4, 5 | 6, 7 | 8, 9 | | 10, 11 | 12 | 14, 15 18 24 | 13 16, 17 20, 21 22, 23 | 19 | 25 27 28 | 26 |
| XXIV | 1 6 | 2 7, 8 | 3, 4, 5 9 | 10, 11 | | 12, 13 | 14 | 15 | 17 18, 19 23 | 16 20, 21 22 23, 25, 26 | | 27, 28 29 | |
| XXV | | 1, 2, 3 4 | | 5, 6, 7, 8 | 9, 10 | | 11, 12 13, 14 15, 16 | 17, 18 19 | | 20, 21 22, 23 24 | | 25, 26 27 | |
| XXVI | | 1, 2 | 3, 4 | 5, 6 | 7 | | 8, 9 | 10, 11 | 14 16 17 | 12, 13 15 | | 18 | |

NOTE: Where days are omitted comparative material was not available.

eight days. In studying the psychoanalytic material, we find that during these eight days the patient expressed her struggle with the problem of pregnancy in a great variety of ways. It is impossible to decide what is the primary cause of this long progesterone period—whether it is a basic unconscious desire for pregnancy or whether this long phase is activated by the psychoanalytic procedure in which her central problem is to solve her conflict about pregnancy. We can only state that whenever the psychoanalytic material expressed this conflict, through associations or dreams, our assumption of progesterone production was correct. The more deeply she was involved in the solution of the problem during psychoanalysis, the more irregular the ovulative phase became. For example, in Cycle XIII, she developed two preovulative phases which were not followed by ovulation; both were diagnosed as “luteinization of unruptured follicles.” The psychoanalytic material which follows these fluctuations is concerned with various problems of pregnancy and with her relationship to her child. We cannot determine whether these irregularities are induced by the psychoanalysis, which stirred up her desire to be pregnant and her regret that she could not be, or whether it would have occurred without analysis. We do not know whether this type of irregularity was characteristic of her cycles before analysis. The intensity and character of her symptoms before the treatment lead us to assume that there had been some kind of irregularity. But we were impressed by the fact that her first eleven cycles were ovulative, and that the anovulative cycles did not occur until the middle of her psychoanalysis. Another type of irregularity is seen in Cycle XVI, an anovulative cycle, in which the progesterone phase hardly develops. The whole cycle is characterized by low hormone production. Cycle XVIII shows irregularities in the development of two preovulative phases, after both of which hormone production was suddenly reduced. In Cycle XXI there are again two preovulative phases, both of which ended in ovulation; and after both, distinct progesterone phases developed. Thus this cycle is like two cycles, although it has only one premenstrual and one menstrual phase. It is perhaps because of these two ovulations that this cycle, 32 days, was longer than the average.

Since we know the psychodynamic conflict of this patient over pregnancy, we are not surprised to find that many of her symptoms,³ such as nausea, feelings of heaviness, abdominal distention, and depression, occurred in relation to progesterone production—that is, when the conflict about impregnation and pregnancy dominated her

³ We shall not try to evaluate the correlations between various psychosomatic symptoms and the gonadal hormone state; this is reserved for further investigation.

emotions. Nor could we expect her symptoms to appear with any obvious regularity when we consider the irregularities and fluctuations of the progesterone phase and the early appearance of incipient progesterone in the preovulative phase.

This patient usually feels well and alert at the beginning of the cycle, when estrogen production is relatively low. When estrogen production is high, her emotions are dominated by a sexual urge and by a simultaneous fear of frustration. The ensuing tension is great and is often expressed by aggressive tendencies toward the sexual partner or by a tendency to masculine identification, a defense against the frustration of her sexual desire. This tension increases not only when estrogen is produced but also when it appears in combination with progesterone. Preovulative tension is followed by relaxation after ovulation occurs, but this is soon offset by the emotional conflicts which develop in connection with the progesterone phase and which make the postovulative relaxation brief. In observing the fluctuations of psychosexual tension in this patient, we find that in most of her cycles there is an exacerbation of tension during the preovulative phase, another in the premenstrual phase of the cycle. When there is more than one preovulative phase, the emotional fluctuations are repeated with some variations.

The hormone and emotional manifestations of the premenstrual phase are worthy of study. When we compare the hormone state in the premenstrual phases of the cycles, we find great variation. There are 11 cycles in which the premenstrual hormone level is low, 5 in which it is diagnosed as "incipient estrogen," and 9 in which the premenstrual estrogen production increases, as if it were a preovulative phase. Even though ovulation does not occur, we may speak of "bimodal cycles" in these nine instances.

From the study of the premenstrual-menstrual phases, their hormone and emotional manifestations, we have tried to find out whether the previous course of the cycle, the ovulative phase, influences the development of the premenstrual phase. There is a marked "premenstrual evidence" in all but one cycle—that is, in 24 cycles an incipient estrogen production indicates the premenstrual phase. Estrogen production, however, dwindles to low hormone level in 16 cycles and increases, in varying degrees, in nine cycles. Of these nine, four are anovulative and five are ovulative. This means that of 20 ovulative cycles, 15 have a premenstrual phase with low hormone level and 5 with high estrogen development; that of 5 anovulative cycles, one has a premenstrual phase with low hormone level and four show an increase of estrogen production as if the onset of the preovulative phase had developed in the premenstrual phase. The beginning of the men-

strual flow corresponds to low hormone level; estrogen production shows an increase for only one or two days during the menstrual flow.

The clinical manifestations of the premenstrual phase, however, cannot be brought into a simple correlation with the premenstrual hormone phase. For example, in the 9 cycles in which the premenstrual phase was characterized by increasing estrogen production, the emotional manifestations show the following variations.⁴

1. Cycle VII: Great anxiety; heterosexual tendency expressed by anxiety, not by sexual desire.
2. Cycle VIII: Depression; heartbroken about abortion.
3. Cycle XII: Uncomfortable, heavy; excessive hatred.
4. Cycle XIII: Anxiety; depression.
5. Cycle XVI: Depressed, "foggy"; some sexual desire.
6. Cycle XVII: Very excited; sexual tendency expressed as castration fear, fear of the castrating mother.
7. Cycle XVIII: Depressed; very conscious of body. The dream and other analytic material highly charged with tension, as in pre-ovulative phase.
8. Cycle XIX: Vague sexual desire.
9. Cycle XXII: Slightly depressed.

The premenstrual phases, which are accompanied by low hormone level, similarly show a great variety of emotional manifestations. For example, in Cycle I she was quite exalted and expressed exaggerated ideas; in Cycle III she became calm and was hungry and sleepy; in Cycle X sexual desire was conscious.

In order to arrive at intelligible conclusions, we must consider not the emotional manifestations of the last premenstrual day alone, but we must compare them with the hormone course of the previous days and with that of the first day of the menstrual flow. We come, then, to this general statement: the clinical manifestations of the last premenstrual day can be described as a depression when the hormone production has a tendency to decline, and is characterized by sexual stimulation, anxiety, or aggression when the hormone production shows a tendency to increase, even though the level may be quite low. Thus the emotional curve in several of the 25 cycles might be described as bimodal, having two peaks of sexual desire. In other cycles there is only one rise of sexual desire; the premenstrual phase is then asexual, depressed; or it may be characterized by aggression and manifest self-destructiveness. In Chapter 5 we noted that in the late premenstrual phase the dominant psychodynamic tendency is usually an urge to eliminate. In this case, in those premenstrual phases in

⁴ These belong to the last day before the onset of the flow.

which a low hormone level prevails and the mood is depressed, the content of the emotions may be described as fear of childbirth or regret over abortions. The sexual desire related to estrogen production during the premenstrual phase appears to be quite different from the emotional manifestations of the sexual tendency in the preovulative or ovulative phases of the cycle. The desire is urgent but has at the same time a defensive character. Aggression toward the penis, sado-masochistic fantasies, prevail in the manifestations of sexuality during such premenstrual phases. It seems that resistance to feminine tendencies and inclination toward masculine identification are often expressed in the emotional manifestations of the premenstrual phase if estrogen is present. The characteristic castration fear, the concept that menstrual bleeding is a form of castration, is often repeated in this phase, as some dreams show. The psychosomatic symptoms during the premenstrual phase were quite different from those of the progesterone phase. Although they varied, urinary urgency, diarrhea, skin rashes, and breathing difficulties repeatedly occurred in the premenstrual phase.

After the onset of menstrual flow, the patient usually experienced relief. The emotional content of the psychoanalytic material during the menstrual flow is not typical. Often the patient continues to be preoccupied with the problem of motherliness, or repeats some of the actual problems of her life, or expresses a greater dependence on the analyst. The psychoanalytic material begins to take a more definite direction with the onset of estrogen production, which indicates the beginning of the next cycle.

The emotional curve of this patient shows that she was usually symptom-free during the menstrual flow and during the postmenstrual incipient estrogen phase. When estrogen production or the preovulative estrogen plus progesterone production produces a great emotional tension, her psychosomatic symptoms become manifest. A variety of symptoms follow with progesterone production. Although the premenstrual emotional tension often activates psychosomatic symptoms, they are different in character and vary according to those psychodynamic conflicts which are repeated in this phase of the cycle.

In this case we could almost foresee the variations of the hormone cycle from our observation of the conscious changes in the patient's emotions and in her psychosomatic symptoms. Our predictions, however, were made by interpretations of unconscious psychodynamic tendencies. As presented in Table 3, we have comparative material for 515 days; estrogen production is diagnosed on 311 days; progesterone on 257. Of these, both estrogen and progesterone are present

on 180 days and low hormone level is diagnosed on 127 days. (For discrepancies see Table 9.)

We predict estrogen production by evaluating the following variations of the active tendency of the sexual drive :

| | |
|---|-------|
| Heterosexual tendency | 182 |
| Masculine identification = aggression and homosexuality | 78 |
| Masochism and exhibitionism | 40 |
| Infantile sexual tendency | 126 |
| | <hr/> |
| | 426 |

The figures may be interpreted as follows : about 71 per cent of the estrogen correlations are expressed as genital tendencies of the sexual drive or as defense against them ; only 29 per cent are expressed as pregenital. Material related to the oedipus complex is always evaluated as infantile sexuality. Since this material was collected during the whole of her analysis in which infantile conflicts were often dominant for long periods, this percentage cannot be considered high and this can be taken as a sign of the genital level of integration of the sexual drive.

This is even more clearly demonstrated by the correlations with progesterone production which were evaluated by the following psychodynamic tendencies.

Progesterone Correlations :

| | |
|--|-------|
| Narcissism, relaxation, and exhibitionistic tendencies | 81 |
| Genital and oral (substitute) passive receptive tendencies | 69 |
| Desire for and defense against pregnancy | 113 |
| Nursing and feeding tendencies | 13 |
| Mother-conflict, competition | 123 |
| Defense against feminine role | 51 |
| | <hr/> |
| | 450 |

Since we have discussed the evaluation of the psychodynamic tendencies for the predictions in Chapter 5, it is unnecessary to explain how narcissism is estimated as genital tendency and how all the other tendencies show the same level of integration. The competition with the mother represents the feminine aspect of the oedipus complex and expresses the infantile desire to be like the mother and to be able to have children. Thus we may say that the progesterone correlations are represented here by the genital level of passive, receptive, and retentive tendencies of the sexual drive. Markedly different are the psychodynamic tendencies which represent correlations with low hormone level :

Low Hormone Level Correlations:

| | |
|--|-------|
| Depressed, withdrawn | 42 |
| Self-destructive, hostile | 57 |
| Genital eliminative tendencies | 34 |
| Anal and urinary eliminative tendencies | 18 |
| Dependence: infantile receptive tendencies | 115 |
| | <hr/> |
| | 266 |

As we have already stated, the correlations with low hormone level are characterized by a regression of the sexual drive to less integrated tendencies, such as—in this case—infantile dependent tendency, the nonlibidinous tendency to self-destruction, and the eliminative tendency on anal and urinary level.

SUMMARY. Our evaluation of the psychodynamic tendencies in this case has shown (1) that the manifestations of the sexual drive appear on the genital level when one or both of the specific gonadal hormones are produced in quantities recognizable in the vaginal smear; (2) that they appear as pregenital tendencies only when the vaginal smear indicates low hormone level. This furnishes further proof that the psychosexual development of this patient had reached a level of genital integration and that this development was later disturbed by fixation to a pathogenetic repetition of the oedipus complex and the conflict surrounding her mother's pregnancy. *The study of her sexual cycles shows that in correlation with the genital level of the psychosexual integration, her gonadal function was fundamentally normal.* Her cycles show slight hormone irregularities but the emotional reaction to the hormones was exaggerated. This reaction can be explained by her lack of gratification. Frustration seems to have been the cause of exacerbation of her psychodynamic conflict in almost every cycle and in almost every phase of the cycle. Her sense of frustration is intensified by an intense heterosexual urge and by the desire for impregnation; but the desire for impregnation could not be gratified because of sterilization. She was thus forced to seek substitute gratification and to fall back into an emotional repetition of her conflicts.

In Tables 17–21 we present five cycles of this patient which suffice to demonstrate the problems discussed.

Case VII

This patient, an unmarried woman, was twenty-seven years of age when she began psychoanalysis. She was accepted for treatment in order that we might study the psychodynamic background of poly-

phagia, attacks of almost insatiable need to eat without actual feeling of hunger or appetite.

History of Symptom: The patient was slender and a "poor eater" in early childhood. She ate slowly, was often forced to eat, and was punished for not eating rich and fattening foods, for which she later developed an abnormal craving. After the birth of her youngest brother, when she was nine years old, she began to eat in secret; she stole the baby's food, drank the baby's bottle, and developed a predilection for mashed potatoes. Her weight was normal until she was twelve, when she weighed one hundred pounds. After menstruation began, she suddenly started to gain weight. In the following school year her weight increased to one hundred and fifty pounds. Her teachers and family began to be concerned about her constant eating and increasing weight. At fourteen she weighed one hundred and seventy pounds; at sixteen, one hundred and eighty. After her mother's death, when the patient was twenty, she went through serious personality difficulties. During this period, about a year, she not only consumed abnormal quantities of food but also drank heavily. Her weight went up to nearly two hundred and sixty pounds. Later she gave up drinking, worked quite successfully, and retained only her main symptom, polyphagia. She says repeatedly: "I have orgies of eating. My capacity to eat is endless. If I don't have one food, I eat another. When I am in such a state of craving I could steal money to buy fattening foods: pies, creams, pastries, rich sauces and gravies. I go from one eating place to another so that people will not see how much I eat." After the "jag" is over she feels very remorseful; she takes a strong laxative, feeling that the orgy is terminated by profuse defecation.

One year before the analysis started she undertook a reducing cure under the care of a physician who prescribed a diet and thyroid extract. She lost one hundred pounds under this regime. But the therapeutic measure itself became an object of craving: she developed a craving for the thyroid extract, some days taking as much as 15 grains. Severe thyrotoxicosis developed and she had to be hospitalized. After this condition cleared up she went back to work. She continued to struggle against her craving for food, her only source of gratification—a struggle so effective that she was hardly aware of her depression. Between the period of hospitalization and the beginning of psychoanalytic treatment she had regained thirty pounds.

Pertinent Medical Data: At the beginning of psychoanalytic treatment, the patient's weight was one hundred and seventy-six pounds; her height, five feet, five inches. She looked upkempt. She had blepharitis and a considerable degree of exophthalmus but no lid lag or

other symptoms of thyrotoxicosis. Her B.M.R. had been -26 before she began thyroid medication. Before and during the analysis the B.M.R. was normal, between -10 and $+10$. She had a moderate amount of facial hirsutism. She showed no thyroid enlargement. Her blood pressure was 120/70, pulse 72. The fat distribution over her body showed no peculiarities.

History of Menstruation: Menstruation started when she was twelve years of age and was at first normal. At sixteen the flow became scanty and the intermenstrual periods long; she menstruated every two or three months. The longest period of amenorrhea, which occurred before the thyroid medication, was of six months duration. Following the reducing treatment, her periods reverted to some degree of regularity. At the beginning of analytic treatment her menstrual flow occurred approximately every five or six weeks; the flow was moderate, of three or four days duration. During the analysis a change took place; the menstrual flow approximated normality, occurring every twenty-eight or thirty days with a flow of four to five days.

Family History: The patient's father was a fairly successful businessman—strict, domineering, and with many obviously paranoid trends. He whipped the children brutally and he also subjected his family to cruel mental punishment. The mother was inhibited and masochistic; her submissive obedience to her husband put her in the role of one of the children—she was never able to protect herself or the children from his cruelty. Consciously, the patient felt great sympathy for her mother who "was seeking unconsciously for the very things which hurt her the most." The mother worked hard in the home, did the laundry and scrubbed the floors, so that people said, "We could eat off your floor." It was not necessary for her to do such heavy work since the family was in good financial circumstances but apparently she had a compulsive attitude toward cleanliness in the house. This was the only item about which she was critical and demanding; in contrast, she often neglected the physical care of the children. She was never a companion either to her husband or her children, whom she loved with an inarticulate dependence. This dependence became especially marked in her relationship to our patient.

The patient was the second of four children. The eldest brother, G., a year and a half older, was rejected and mistreated by the father and became so difficult to handle that when he was twelve years old he was sent away to school. There were two other brothers, B., four years younger, and W., nine years younger. All three boys played important roles in the emotional development of our patient.

The whole family had a tendency to overeat. The three brothers became overweight as adults. The father's eating habits were ex-

tremely neurotic; he would eat the same food continuously for days, in tremendous quantities. Then he would give up this favorite food "because it made him sick" and proceed to find another favorite with which to indulge his eating orgies. Though the mother did not have this bizarre eating habit, she became overweight because she ate freely of those rich foods which had to be prepared to meet the demands of the father.

Developmental History: All the trends in the personality development of this patient cannot be delineated in this presentation. We omit a description of the patient's sublimations which were of high standard in spite of severe neurotic regression. We present only the main drives in their intricate interrelationship, including only as much material as is necessary for an understanding of the psychodynamic material associated with the sexual cycles.

The patient's mother was an unhappy woman, constantly in a depressed emotional state. Although she was able to nurse her first-born son, she did not nurse the second child, our patient. The patient could not remember any closeness, warmth, play, or joyful times with the mother. In contrast to this attitude of the mother and to his own attitude at a later period, the father regarded the patient as his favorite child. Though he showed no interest in the eldest boy, the center of the mother's interest, he played with the patient when she was a baby and took her for little walks when she could hardly toddle in order to show her off to his friends and neighbors. The patient formed an intense positive attachment to him and developed the feeling that she and her father belonged together. This relationship to her father was undisturbed until the mother left the father and, with the two children, went to live with her own family. At this time she was pregnant with her third child. The patient remembers how often she was teased by her relatives because she longed for her father, and how she acted as if she belonged only to him.

The early psychosexual development of the patient can be summarized as follows: Her pre-oedipal development was influenced by two main factors: frustration of her early dependent and oral needs by the mother and an unusually early gratification by the father. Though the demonstrative love of the father gratified her narcissistic needs and brought about an early attachment to him, this was not a substitute for the mother's love. We cannot determine whether constitutional factors are responsible for the intensification of her oral needs but our analytic material gives sufficient evidence that both the mother's rejection and the father's love intensified her oral needs. These needs manifested themselves in bizarre fashion; she ate sand from the sand pile when she was two years old; it was said that she

had made numerous tooth marks on the tables. She was a thumb sucker from early infancy. Her toilet training occurred without difficulty.

The mother returned with the children to her husband shortly before the third child, a boy, was born. The trauma of the birth of the brother, B., was overshadowed by a terrible disappointment in her father who had evidently undergone some serious personality changes during the time of separation. He began to whip the children for the slightest misbehavior. He was most cruel to the eldest brother; he would assign chores to him and then find fault with his accomplishment in order to punish him. The patient, bewildered by the father's attitude, began to envy the baby boy and to identify herself with him. This identification manifested itself in an intensification of thumb sucking. The parents often threatened to put the patient in the baby carriage and give her the baby's bottle if she did not give up thumb sucking. Once they actually carried out this threat. The father had other methods of forcing her to give up thumb sucking. She remembers that he bandaged her hand, and more than once he awakened her from a deep sleep with a beating because she had sucked her thumb in her sleep. This torture would be continued the next morning when her father would inquire whether she knew why she had been punished and would threaten her with a repetition of the punishment if she had forgotten. The parents failed in all their efforts to make her renounce thumb sucking; it was the analysis which finally liberated her from this habit. As a further method of oral defiance to her parents, she developed another symptom: she became a poor eater. She refused to eat "baby" food, that is rich, creamy, soft food, but the father forced her with severe punishment to eat this food until she became nauseated. She was then about five years old. She recalls that she was a shy, bewildered child who talked very little, who did not know how to play with other children, and who could not take part in the little performances at school.

Her attachment to the father was deeply disturbed by his cruelty, a violent contrast to their earlier pleasurable relationship. It produced in her a deep-seated masochistic fixation. Even the father's brutality made her feel, however, that she was his favorite, that she was better than her elder brother, and that she could get her father's attention and cause him worry and anxiety by being sick. At the same time, this cruelty made her defy her father and become critical of him. She was also disappointed in her mother, who did not criticize the father nor protect the children from him but was as submissive to him as they. This attitude of the mother was the unconscious root of the patient's identification with her. Consciously the patient felt that she

and the father had a common bond. This deep-seated conviction sharpened her criticism of her mother, who, she felt, did not do things for the father in the right way; she fantasied how much better she could take care of him. She had to defend herself against these "oedipus fantasies" and so she developed guilt feelings and became more defiant of the father. Thumb sucking was her only autoerotic expression; she did not masturbate. Such was the state of her psychosexual development when her mother became pregnant for the fourth time. It was then that the patient's eldest brother, G., seduced her to sexual play. She was then eight years old.

G. began by telling her what people do in the slums and how children are born. He frightened her by telling her what terrible things the Italians would do to her, arousing her masochistic fantasies. Their sexual play was precocious and was often repeated. The patient submitted passively but felt extremely guilty. Half-consciously she was aware that not only people in the slums but also her parents did what G. did with her. The emotional tension of the two guilty children became so great that they ran away from home. G. had frequently run away for a day or two in order to avoid the father's punishment, but our patient had never run away before. They went for some ten miles, were frightened and very hungry when a farmer picked them up, fed them, and took care of them until the police came and took them home. They had told the farmer they were orphans. The mother, nearing time for delivery of the fourth child, was very much upset because of this misconduct and reproached the patient heatedly; she treated the child as if she had reached an age of full responsibility and demanded why she had done this to her mother just at this critical time. The patient certainly did not know why but from the analytic material we can see her motives: she wished to be punished; she ran away in order to create an obvious, manifest guilt and thus to relieve the unconscious guilt caused by her participation in sexual play with G. This play was in imitation of the parents' sexual life, a substitute for the unconscious desire to be loved by the father, to be in the mother's place, to be the mother of the expected baby. Running away from home at this time meant a flight from the scene of her sexual conflict, from her sexual guilt. Another purpose of her flight was to save herself from witnessing her parents' sexuality, made more obvious by the condition of her mother. It is interesting to note that the patient does not remember her father's reaction to running away, probably because the unconscious guilt was felt primarily toward the mother.

This acting-out, this self-inflicted guilt and punishment, however, did not solve the patient's conflict; a severe regression followed. At the age of nine she developed a complex neurotic condition, the out-

come of her previous developmental disturbances, now mobilized in a new fixation which definitely determined the further development of her personality. The most important symptom of this neurosis was an intensification of her oral needs. She began to steal the baby's bottle and drink its milk; later she stole the other baby's food. The parents' threats and punishments when B. was a baby now became an independent but secret gratification of the patient's regressive tendencies. This behavior was an expression of her passive, regressive desire—her wish to be the baby. It also served her hostile feelings toward the baby. Her sadistic attitude toward him became overt; she spanked him and bit him. This could not have happened if the mother—owing to her own depression and because of an unconscious identification with the daughter—had not given so much responsibility to the little girl for the care of the baby. Thus the child had to take the mother's place when she wished to be in the baby's place. In the analysis she said she hated the baby because he looked like her father. It became clear, however, that he was actually not like the father, but that he had served as a substitute for the father as an object of aggression. "It was my feeling about my parents' sexual relations that caused the conflict. I felt my father was responsible for W. [the baby]. Between man and boy there was a strong tie. This was the penis that I wanted to destroy, just as I wanted to destroy the whole child. Hitting W. was identical with hitting father; pulling his penis out was like castrating father." She had a strong impulse to injure the baby's penis whenever she changed his diapers. This castrative wish, which was repeated vividly during the analysis, was related to the mother also. The patient was envious of the baby boy because the mother liked him and often played tenderly with his feet. "I disliked W. because he was a boy." "Mother liked the boys better. Mother loves the one who has the penis." Though these statements came at different times during the analysis, they do not reflect the only motivation of her destructive tendencies. The analysis showed clearly that the central emotional conflict over the baby originated in her concept that he was her own child, her child by the father. She hated him because he represented and seemed to expose her sexual guilt.⁵ The idea that W. was her child repeated itself in various forms during the analysis; it was the typical psychodynamic material corresponding to progesterone production. Whenever the biological need for impregnation or for maternal care of a child repeated itself in the psychoanalytic material, the patient had to struggle with this unconscious conflict about being the mother of W. The wish to have a

⁵ We also found in Case I that the impulse to kill the child originated in a similar concept.

baby was repressed, and with this repression the oral receptive tendency became intensified. This oral regression manifested itself not only in stealing the baby's food but also in her whole attitude toward food. She developed a craving for mashed potatoes, which she ate in great quantities; she learned from her brother how to steal money from the mother, and bought sweets and pastries and candies. This oral gratification, a substitute for other satisfactions, was her only consolation. She succeeded in repressing her genital desires: she did not masturbate and the sexual play with her brother had ceased. The eating became erotized as a substitute for the gratification of her repressed genital receptive need: for the desire to become pregnant. In her struggle with this conflict she became a neurotic child; she played destructive games, fell behind in her schoolwork, and was stubborn and defiant at home.

At the same time, her family demanded of her a sort of helpfulness, too mature for even a normal child. The mother burdened her with responsibility for the physical care of the youngest brother; the father arranged charge accounts for her in downtown stores in order that she might do the shopping for the family, for the mother did not like to go downtown. In this way, she was again taking the place of the mother. She had to carry the responsibility of an adult without receiving any of the gratification of an adult. Her hostility toward her parents increased as her father continued to beat her for the slightest mistakes. This hostility, added to her intense desire for food, tempted her to abuse the charge accounts and she bought food for herself secretly. This increased her conscious guilt and kept her in a constant state of tension lest she be found out. Thus another vicious circle was set up: the more aware of her frustration she became, the more acutely did she feel the need for immediate gratification, which she could find only in eating.

During this neurotic period she had only one way of escape, one way of being a child—through illness. She developed an overwhelming desire to get sick, for in this way she secured attention from her father and escaped his beatings. She often pretended that she was sick. When W. was a year old she tried this for the first time. This malingering seemed not only to afford the conscious advantage that she thereby avoided punishment—the father was afraid of disease—but also to give her an unconscious gratification. It served as an identification with her next younger brother, B.; she always chose his diseases for her pretense. In connection with her overeating she often pretended that she had a stomach-ache. After repeated complaints of this kind, appendicitis was diagnosed and she had an appendectomy. She continued to complain lest her malingering be detected.

Once, when she was fourteen, after a severe punishment by her father, she made a conscious effort to force him to give up this brutality; she staged a nervous collapse. Her brother B. was very ill at the time. The patient's attack frightened the father so greatly that she achieved her goal. After this the patient gave up her pretense of illness, but she did not give up her desire to become ill. Symptoms of her self-destructive tendencies continued in her adolescent development.

The psychodynamic material of the preadolescent neurosis may be summarized as follows: the regression of the oedipus wish and the repression of the genital desire to have a child by the father resulted in a regression of genital sexuality to pregenital forms. The thwarted heterosexual wish motivated sadism which was directed toward the penis. The suppressed wish to be impregnated and to have a child increased the intensity of the oral receptive need and forced her to find a substitute for impregnation in eating.

In this phase of her struggle she experienced a severe and decisive trauma, just before the onset of menstruation. Her mother, suffering from a boil on her upper leg, showed the infection to her daughter. The patient thus had occasion to see the vagina of her mother. She felt a great revulsion; she was deeply shocked and thought, "This terrible thing is what it means to be a woman." Later in life, whenever her inferiority feelings became intense, she attributed them to this trauma: "I felt that way when my mother showed me her vagina. I felt that I was like her. My feeling about myself was disturbed. I felt that women were detestable."

Shortly after this episode her menstrual flow started, an experience which to her was the final and convincing proof that "women are dirty, soiling, and repulsive." This event completed the process of identification with her mother, but in a depressive manner. Her feeling about menstruation was, "This happens only to me." At that time this "me" included also her depressed and, in her eyes, degraded mother. Her mother had given her no satisfactory explanation of menstruation; she said only that it was necessary in order to have children, a statement which served to mobilize all the fear and guilt which the patient had felt in connection with the birth of her brother. The mother, who had never accepted her own femininity and who was always irritable and depressed during her own menstrual periods, reacted with irritability toward the patient as if repelled by her daughter's menstruation. She began to neglect the patient in many ways; for instance, she paid no attention to her clothes, so that the patient is still ashamed when recalling how poorly dressed she was at that time. With this, she associated a subsequent social trauma which increased her inferiority feelings and resulted in even greater isolation.

It so happened that during this school year her class was divided: the children from her neighborhood were promoted, but the patient was left behind with the other half of the class, the underprivileged children. She had no friends in the new class; she was fearful of these children from lower social groups. "The boys were so dirty. They told dirty jokes and wrote notes." On the other hand, she felt identified with them: "I really don't know why it happened that I was put in this group, but I thought it was because I was bad, because I played with my brother, and because I menstruated. It was distasteful to have menstruated so early. I thought the other children I knew began later. I still have the feeling that my early menstruation identified me with the group I was put in and separated me from those to whom I wanted to belong."

The periodically recurring psychoanalytic material centered about menstruation gives evidence of the patient's reasons for reacting to the onset of menstruation with regression. Menstruation was a definite proof that she was a woman, that she was like her mother, that she, too, had these damaged, bloody, ugly genitals. *Identification with the mother as a degraded person was the principal determinant of her regression.* This identification was made more effective by her disturbed and not asexualized relationship to her father. "I associate menstruation with my father's reaction to sickness. He could not tolerate blood. He could not bear to see a scratch. Though I always wanted to become ill in order to get his attention, I felt that *this* illness, menstruation, was repulsive to him." This was the origin of her concept that female genitals are repulsive to men. Whether this idea was the result of the primary repression of her sexuality or a defense against her increased sexual desire for her father at adolescence, we cannot decide. The important fact is that the repulsiveness of female genitals remained an *idée fixe* which even later was not mitigated by a knowledge of the sexual relations between men and women. This idea remained equally effective during her analysis; the shocking realization of the "inferiority of the vagina" always repeated itself in connection with progesterone production, usually as a sign of regression of progesterone, and was always accompanied by an attack of craving for food.

In her dreams during the analysis, the female genitals were symbolized as decayed mushrooms, as a kettle of boiling feces, or as boiling mud pots. They clearly show the revulsion that she felt toward woman's body, including her mother's and her own. One dream should be recorded here.

I seemed to be some place where there was a large kettle on a stove and clothes boiling in it. The kettle was blue. Feces were swimming

on the top of the kettle. There was a room with two beds. I was in bed. Someone was in the other bed. Someone was coming to the door. I didn't get up to answer the door.

Associations (in part): "The large kettle with the feces was so impressive. I was just thinking of the color. The feces were in a bag so they could not be seen. I know that this was not part of the dream, but I felt as if it could be a part of it: this room where the kettle was, was very much crammed—as if small children were there and yet at the same time were not there. Sort of steaminess in the room; I associate this with mother's being harassed and complaining a great deal because her clothes would not dry . . . I keep recalling this kettle. It reminds me of the soap dish in the bathtub at home. I had the idea it was poisonous because it was copper. I used to drink the liquid which collected there, thinking it would make me sick. Something funny about the feeling about myself: genitals being sort of messy, and so on." Summarizing the associated material to the "kettle" in this dream, we see that the kettle symbolizes the bowels containing feces; that then, substituted for the kettle, is a room crammed with children. Kettle-room is a symbol for the womb; it is a symbol of the harassed mother also. Identification with the harassed mother leads her to contemplate poisoning—that is impregnating—herself.

This dream and many similar ones show that the patient identifies the female genitals with the bowels. We have not traced the anal trends in this material. We have mentioned only that the central symptom, the craving for food, ended with a copious bowel movement. For this patient the retentive character of the female genitals was equated with the physiological function of the bowels: retention of food. The eliminative function of the bowels was equated with the eliminative function of the genitals: childbirth, menstruation, orgasm. After menstruation had begun, the patient consciously associated the function of the genitals with the function of the bowels. Her whole body was a "kettle boiling with feces" and she began to stuff this kettle with more and more food. Thus what should have developed into a genital process became an alimentary process. Intake of food and defecation took the place of coitus and childbirth.⁶

The patient's craving for food started when she was nine years of age, after the birth of her youngest brother, but she did not become overweight until after menstruation was established. Then, instead

⁶ This outcome of mother-identification may also be explained as a result of her ambivalence and guilt toward her mother, as evident from the earlier development (pre-oedipal and oedipal phase). Her reaction to her mother's genitals and to menstruation became traumatic because of her previous hostile identification with the mother.

of "thinning out," as is normal after the onset of the increased hormone function of puberty, she gained weight rapidly. While overeating was the result of the suppression of her sexuality, it also became the cause of further regression: "I feel that I am fat, that I am repulsive, and I act toward myself as I would toward something very repulsive. I loathe myself . . . I loathe eating because I eat until it hurts." The compulsive eating not only provided an immediate gratification of emotional needs, but it also served to gratify self-destructive tendencies and to increase her inferiority feelings. The self-destructive tendencies manifested themselves both in the craving for food and in her efforts to harm herself in other ways. During puberty she feigned sickness in order to get attention; now her wish to be sick was real. She tried to break her arm; she succeeded in developing infections. More typical was her desire to poison herself. Though drinking the soapy water had been only a childish experiment, she later made more dangerous efforts: she took pills and other medicines found in the medicine closet, in great quantities. Though she was never seriously affected, *we see in this act the self-destructive character of her craving and the erotization of the receptive incorporative tendencies.*

After menstruation had been established, her psychosexual development was characterized by an intensification of oral and anal needs and by the exacerbation of self-destructive tendencies. We feel justified in stating the clinical diagnosis of her condition at that time as depression. This depression manifested itself in various ways: she became untidy and careless of her physical hygiene, as if she were stubbornly exaggerating all the "ugliness and dirtiness" that she hated in herself but had to bear because she was a woman. She developed no interest in boys at all; she withdrew from the general activities of the high school girls, and her school record deteriorated in spite of her superior intelligence. At the age when girls normally begin to look for pleasure outside the family, her life was concentrated within the home, of which she became the center. Her relationship to the members of her family now underwent a change. Although she was successful in making herself believe that she hated her father, she found many subtle ways to dominate him. The mother became more and more dependent on her. She became protective to her mother, gave her advice, and tried to arrange for a divorce. She acted as a good mother to her brothers and tried to influence the father in their behalf. Her little successes in the family were her only ego-gratification, while she went on struggling against her sexuality by overeating. Her weight went up to two hundred and twenty pounds. Her menstruation became scanty and infrequent. During the next two or three

years there was no further change in her behavior or in the underlying psychosexual dynamics. She had graduated from high school and had spent two years at college, preparing herself poorly for a profession which she did not choose but was forced by the father to undertake.

When the patient was about twenty, her mother died. This event exacerbated her neurosis. The smothered intensity of her desire to be loved by the father was rekindled; she unconsciously desired to have the relationship that the mother had had with him. Guilt feelings activated by this intense sexual desire increased her hostility toward the father as a defense against her positive wishes. Her feelings are best illustrated by her own words: "After my mother's death I had every reason to kill my father. I fantasied that he came into my room and raped me." The patient, who had never masturbated manually before, now deflorated herself and used various instruments to reach sexual satisfaction in the vagina. With her sexual feelings aroused to such an intensity, she could not bear to live under the same roof with her father. She left home, an act which she considered an expression of hostility against her father but which is evidence of her self-destructive tendencies as well. For about a year she lived an altogether neurotic withdrawn life; she established herself in a small town with the idea that she would vegetate there without any companionship, without any work, in self-imposed exile; then, when her financial resources were spent, she would commit suicide. This she looked forward to. Circumstances, which we cannot go into here, again brought the father into contact with her. The result was that she resumed life in her home town, although not with her father. She entered another profession and became very successful in her new field.

Her personality and social adjustment appeared to be normal but she had no sexual life other than masturbation. She never permitted herself to think that she could be interested in men for she was convinced that men could not be interested in her. Before she started psychoanalysis she had felt attracted to a man for a short time but she denied any sexual content in this feeling. Her increased sexual interest did not express the genital sexuality of an adult; it was the revival of an old genital wish concentrated upon the father, the same which she had acted out in her sex play with the elder brother but had suppressed after the birth of her youngest brother. Her masturbation fantasies were concentrated on two basic wishes. One was the wish to have a penis, a desire sometimes accompanied by the actual sensation of having a penis. (We found this fantasy correlated with high estrogen production.) The other wish was masochistic, a strong

desire to be hurt. She inserted objects into the vagina to gratify "a definite feeling that she could enjoy being physically hurt." Frequently she had the fantasy of being raped by her father. Though her masturbation had the same intense self-destruction trend as the craving for food, it did not become a substitute for the polyphagia; neither did it release her from the habit of thumb sucking. Overeating, masturbation, and thumb sucking—all were utilized to secure release from emotional tension. This tension was tinged with self-depreciation and self-destruction; it was the expression of her rage, turned upon herself because she felt caught in the vicious circle of her conflicts. This was the state of the patient's psychosexual development when the psychoanalytic treatment began.

Summary of Developmental History: The four important transverse sections of this patient's development appear in the following table:

| DEVELOPMENTAL PHASE | THE TRAUMATIC EXPERIENCE | REACTION: REGRESSION TO | SYMPTOMS |
|---------------------|--|---|--|
| I Age, 3½ | Father's cruelty. The birth of brother B. | Identification with the baby on oral level. Defiance of parents | Intensification of thumb-sucking. Eating difficulties. Shyness |
| II Age, 8-9 | Pregnancy of mother. Sexual play with brother, substitute for oedipus wish | Regression of genital tendencies. Regression of heterosexual tendencies to sado-masochistic tendencies. Regression of mother-identification to sexualized oral receptive and incorporative tendency | Hostility toward father. Sadism toward brother. Changed eating habits. Craving for food, stealing, malingering |
| III Age, 12 | Seeing mother's genitals. Menstruation | Regression to anal level. Identification with mother; increase of the oral receptive and anal retentive tendency; pregnancy wish. Self-destructive tendency becomes defense against sexuality | Depression. Craving becomes self-destructive |
| IV Age, 20 | Death of mother | Revival of heterosexual tendency on oedipus level. Defense against it. Sexualization of oral receptive tendencies. Increased self-destructive tendencies | Masturbation. Depression. Suicidal tendency |

The personality structure of this patient can be described as one in which genital tendencies found gratification on a pregenital level. Her sexual life was developed in an introverted manner, as self-impregnation and self-destruction.

We have described the developmental history of this patient and have tried to follow the evolution of her psychosexual development in order to learn whether her developmental disturbance affected her gonadal function and how the psychosexual conflicts were reflected

in her sexual cycles. We studied 13 cycles. The following table gives the variations of the cycles. Each figure represents the day of the cycle on which the hormone phase was estimated, according to the headings. The figures in boldface indicate that she had a craving for food on that day.

As presented in Table 11, 5 cycles were ovulative and 8 were anovulative. Of these 8 anovulative cycles, luteinization of unruptured

TABLE 11

CASE VII

CASE VII

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|--------------------|---------------|---------------------------|---|--|------------------------------|--|---------------------|----------------------------|---------------------|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L. | Increasing estrogen |
| I | 1, 2, 3, 4 | 5 | 6 | 7, 8, 9, 10 | | 11 | 12, 13 | 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 | 14, 15 | | | 29, 30, 31, 32, 33 | |
| II | 1, 2 | 3, 4, 5, 6 | 7, 8 | 9, 10 | 11 | | 12, 13, 14, 15, 16, 17, 18 | 19, 20, 21 | 22, 23 | 24, 25, 26, 27 | | 28, 29, 30, 31 | |
| III | 1, 2 | 3 | 4, 5 | 6 | | | 7, 8, 9 | | 10, 11, 12, 13 | 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 | 24, 25, 26, 27, 28 | 30, 31, 32 | 29 |
| IV | | 1, 2 | 3, 4, 5 | 6, 7 | 8 | | 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 | | | 23, 24 | 25 | 28, 29, 30, 31 | 26, 27 |
| V | 2, 3, 4, 7, 8, 9, 10 | 5, 6 | 11 | 12, 13, 16, 17 | | 18 | 19, 20, 21, 22, 23, 24 | 25, 26, 27 | 28, 29, 30 | | | | 31, 32, 33, 34, 35 |
| VI | 1 | 2, 3, 4, 5, 6, 7 | 8, 9 | 10, 11, 12 | | 13 | 13, 14, 15, 16, 17 | 18, 19, 20, 21, 22 | 23 | 24 | | | 25, 26, 27, 28 |
| VII | 1, 2, 3, 4, 5 | 6, 7 | 8 | 9 | 10 | | 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 | 22 | 23, 24, 25 | | 26, 27, 28 | 29, 30, 31, 32, 33, 34, 35 | |
| VIII | 0, 10 | 1, 2, 3, 4, 5, 6 | 3, 4 | 7, 8 | | 11 | 12, 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28 | 14, 15, 25, 26, 29 | | | | | 32, 33, 34 |

NOTE: Where days are omitted comparative material was not available.
 • Comparative material was lacking for the ovulative period, thus ovulation could not be stated.

CASE VII (Continued)

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|----------------------------------|---------------|---------------------------|--|--|------------------------------|---------------------------|---------------------|------------------------|---------------------|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L. | Increasing Estrogen |
| IX | | 1, 2 14 | 3, 4 15, 16 | 5 | | 6 17 25 | 6, 7 17, 18 19, 20 21, 22 23 25 26, 27 | 8, 9 10, 11 12, 13 24 28 | | | | 31 34 | 32, 33 |
| X | | 1, 2 | | 10 11 | | 3 14 23 | 3, 4, 5, 6 9 12, 13 14, 15 16, 17 24 | 7, 8 18, 19 20 25, 26 27 | 29, 30 21, 22 | | | 27 30 | 28 29 |
| XI | 1 | 2, 3 | | 4, 5, 6 7, 8, 9 10, 11, 12 | 13 | | 14, 15 16, 17 18, 19 20 | 21, 22 23, 24 | 25 | | | | 26, 27, 28, 29 |
| XII | 1, 2, 3 | 4, 5 | | 6, 7, 8, 9 10, 11, 12 | 13 | | 13, 14 15, 16 19 20, 21 22, 23 24, 25 | 17, 18 | | | | 28, 29 30, 31 32 | |
| XIII | 1, 2 | 3, 4 | 5, 6, 7 | 8, 9, 10 | | 10 | 11, 12 14 15 18 | 13 16 17 19 | 20 21 23 24 | 22 | | 25, 26 27, 28 | |

follicle occurred in 7, while in one there was neither ovulation nor luteinization. Luteinization of the unruptured follicle occurred once per cycle in a few cycles, but in several others—IX and X, for example—it occurred 3 times, thus producing a long and fluctuating period of progesterone production. One glance at the table shows the peculiarities of these cycles: the estrogen phases were relatively short, the progesterone phases long. For example, in Cycle I, the progesterone phase lasted 13 days; in Cycle IV, 14 days; in Cycle VIII, 18 days; and in Cycle X, even longer—20 days. When we study the relationship between the estrogen, the ovulatory, and the progesterone phases, we see even more clearly how short the progesterone-free periods were. The table shows that there was a relatively long low hormone level fluctuation in the postmenstrual phase before estrogen production began; that the period of increasing estrogen lasted no longer than 1 to 4 days before the preovulatory progesterone production began. Estrogen production often remained at a relatively low level

during several days of fluctuating progesterone production before ovulation occurred (Cycles II and V) or before progesterone production definitely rose to dominance (Cycles VI and XII). The progesterone phase was shortest in ovulative cycles and longest in those cycles in which luteinization of the follicle occurred. For example, in Cycle VIII there was a fluctuation of low estrogen level for ten days; on the eleventh day the luteinization of the unruptured follicle was diagnosed, and for seventeen days there was a fluctuation of progesterone production until the premenstrual phase was indicated by incipient estrogen production. In those cycles in which luteinization of the follicle seemed to occur more than once, the progesterone phase lasted even longer and its fluctuations were more marked. There was one cycle (III) in which almost no progesterone phase developed. This was a cycle of low hormone level fluctuations, that is, without typical cyclical changes until the premenstrual phase, when estrogen production became marked.

The premenstrual phases were generally indicated by several days of incipient estrogen production, which then diminished; the onset of the menstrual flow usually occurred after several days of low hormone level. There was only one cycle (III) in which the premenstrual phase showed a longer, and marked, period of increasing estrogen production, as in the development of a preovulative phase. This is the cycle in which the previous ovulative phase had not developed at all. (Compare this cycle with cycles of Cases XII and XIII.) In Cycles V and VI, premenstrual incipient estrogen production continued after the onset of the flow as increasing estrogen production, as if the preovulative phase might develop during the menstrual flow. Estrogen production usually declined during the menstrual flow which ended at a low level of hormone production.

If we were to delineate graphically the hormone output during the cycles of this patient, we should have a relatively flat curve with two not very high peaks of estrogen production; one, preovulative; the other, during the menstrual flow (in one cycle, III, before the flow). Between these two short estrogen periods there is a long progesterone phase.

In 13 cycles there was comparative material for 269 days. Complete correlation was made for 256 days; there were partial discrepancies on 14 days. Estrogen production was diagnosed for 131 days; progesterone for 165. Both hormones—estrogen and progesterone—were found 98 times and were therefore counted twice. On 71 days, low hormone level was diagnosed. Variations in hormone production were predicted by evaluation of the following psychodynamic tendencies:

PSYCHOSEXUAL FUNCTIONS IN WOMEN

Estrogen Correlations:

| | |
|--------------------------------|-------|
| Heterosexual tendency | 78 |
| Sexual activity (masturbation) | 10 |
| Hostility | 28 |
| Infantile sexual tendency | 51 |
| Incorporative tendency | 11 |
| Identification with brother | 8 |
| | <hr/> |
| | 186 |

Progesterone Correlations:

| | |
|-------------------------------------|-------|
| Mother-conflict | 34 |
| Narcissism | 17 |
| Genital and oral receptive tendency | 56 |
| Pregnancy wish; conflict | 21 |
| Nursing, feeding | 11 |
| Homosexual tendency | 16 |
| Anal regression | 3 |
| Dependence | 8 |
| | <hr/> |
| | 166 |

Low Hormone Level Correlations:

| | |
|------------------------------|-------|
| Anal regression | 4 |
| Destructive tendency | 6 |
| Genital eliminative tendency | 18 |
| Dependence | 20 |
| Oral receptive, infantile | 12 |
| Depressed, withdrawn | 7 |
| | <hr/> |
| | 67 |

A study of this tabular summary of the psychodynamic tendencies would lead us to interesting conclusions regarding the personality structure of this patient. First let us look at the estrogen correlations: heterosexual tendency was represented on a genital level 99 times. Under heterosexual tendency on the genital level we included incorporative tendency, masturbation—a substitute for normal genital activity—and heterosexual desire, which alone was recognized 78 times. Active sexual tendency on an infantile level and nonlibidinous tendencies were stated 78 times, that is 47 per cent. Comparing this with similar data of Case I, we see in Case VII that the manifestations of heterosexual tendency appear on an infantile level in a greater proportion than in Case I. This would correspond to the fact that in this case the estrogen phase is short and the estrogen level lower than in Case I. It seems safe to say that in Case VII there is a slight insuffi-

ciency of estrogen production. The short estrogen phase is followed by a long progesterone period which seems to overbalance the estrogen. The psychodynamic correlations of this overactive progesterone phase show that of the 166 diagnoses, only 11 are at a pregenital level and 155 represent genital manifestations. Wish for pregnancy and desire to nurse, as well as narcissism and genital receptive tendency, represent the highest level of integration of the sexual drive in relation to progesterone. In this case, an oral receptive tendency was often substituted for a genital receptive tendency. The psychodynamic tendencies of this patient appear to be on a relatively infantile level in correlation with estrogen. It is as if this patient were infantile in relation to the opposite sex but decidedly mature with respect to pregnancy and motherliness. The psychodynamic correlations with low hormone level emphasize this interpretation. The genital eliminative tendency is correlated with a reduction in progesterone and follows the previously high progesterone production. The passive dependent and infantile receptive tendencies represent a regression in the integration of sexual drive which we usually found in correlation with low hormone level. The phases of low hormone level and their corresponding infantile manifestations of the sexual drive are represented no more frequently than we find in cases with normal gonad function.

We have discussed the hormone cycles and the psychodynamic tendencies which enable us to recognize variations of hormone production. It is evident that the psychodynamic tendencies which are correlated with a high level of progesterone production outweigh other psychodynamic tendencies.

We have discussed how the central symptom of this patient, polyphagia, took the place of normal sexual function and became a substitute gratification in all kinds of emotion tension. If the patient had been asked whether her "eating jags" were related to her menstruation, she would have answered "no" because the craving occurred at any time. Study of the sexual cycles, however, revealed a definite correlation between the gonad cycle and the craving for food.

Our study of the sexual cycles of this patient began two months after the psychoanalytic treatment started. At that time she was already under the influence of the analysis and showed a compulsive tendency to confess her eating orgies. She had no prescribed diet. It soon appeared that the overeating, which she had described as continuous, showed some periodicity. Her self-control was generally powerful enough to hold her within the limitations of an ordinary reducing diet; occasionally, however, the craving became uncontrollably strong and she would go on an "eating jag." Again, at other times, her self-control would become so weak that she went on eating and eating.

Table 11 shows the recurrence of her craving for food. The figures in boldface represent days when this craving was uncontrollable and led to attacks of polyphagia. The figures italicized represent the days when craving was intense but controlled. In the 13 cycles, the craving occurred almost invariably during the progesterone phase and when the hormone level was low. It is as if the craving began at ovulation or upon luteinization of the follicle and developed during the progesterone phase. Progesterone production was diagnosed on 100 days; on 48 of these days she suffered from uncontrollable craving for food, and on 16 she controlled her desire, that is, on 64 days of the 100 she suffered from her symptom. Decline of progesterone was diagnosed on 67 days; on these days there were 19 severe and 18 controllable attacks of craving. This means that of 167 days of progesterone production, there were 101 days on which she suffered craving. Of 97 days, which constitute the estrogen and preovulative phases, she had 3 controllable attacks of craving but no severe attacks. The premenstrual and menstrual phases are not so simple. In spite of incipient estrogen during the premenstrual phase, gluttony occurred; during the 55 days of menstrual flow there were 15 severe attacks of craving and 7 controllable attacks.

A study of the patient's mood-swings shows that during the estrogen phase she felt well and relieved, was active, and did not suffer from frustration. Emotional tension developed at about the time of ovulation. Sometimes the patient felt this tension as a sexual urge, again as a depression, but in either case she sought relief and gratification in eating. The psychodynamic material correlated with her "eating jags" shows (1) the wish to be impregnated, (2) the wish to be pregnant, (3) motherly relation to her brother, W., (4) conflict with her mother. The psychodynamic tendency appeared on a genital level; the eating represented a substitute gratification for a genital urge which could not otherwise be satisfied. After a period of intense urge, the conscious emotional manifestations took on the character of depression. Whether or not the depression was a reaction to actual frustration we cannot say because we do not know how her hormone cycle would have developed had she experienced normal gratification. We do know that her mood was often despondent and self-deprecative. Later study of the hormone cycles showed that these depressed days were correlated with diminishing progesterone production and were often accompanied by eating orgies. The premenstrual phase of the cycle varied between two extremes: it was sometimes like the post-ovulative phase—a sexual urge would be expressed or accompanied by an "eating jag"—or it was characterized by a depressive, self-destructive mood, often attended by an "eating jag" also. In all but

one cycle she felt sexual desire on the last day preceding the menstrual flow.

The emotional cycle, like the hormone cycle, shows two peaks. One seems to occur only after the progesterone phase is established; its chief emotional manifestation is a receptive need so strong that it has to be gratified. Because it cannot be gratified genitally, she seeks substitute gratification in eating. The overeating, in turn, causes the neurotic vicious circle. The second peak occurs before the onset of the menstrual flow. Between these two peaks there is not only a long progesterone phase but also a period of low hormone level. Whenever the overeating occurs in correlation with low hormone level, the psychodynamic tendency shows an infantile level of the passive receptive tendency; it is then related to the wish to be dependent on the mother and to be fed by her. We recognize that the psychodynamic tendencies motivating the craving for food are those which are generally related to progesterone and which we presented as the psychogenetic source of her craving for food. Although we cannot see a direct connection between the craving and the time of the menstrual flow, there is an intrinsic relation between the craving and the sexual cycle. The irregularities of the craving correspond to the irregularities of the cycle, especially to the fluctuations of the progesterone phase.

It may be asked whether we intentionally exclude all factors, other than the hormone state, which might have motivated the craving for food—for example, actual frustrations, anger, and the like. During the course of the analysis we often did interpret the eating orgies as activated by such emotional factors. Only much later, when we prepared the material for tabular summary, did it become apparent that in spite of all other motivations the craving occurred mostly in correlation with progesterone or during the premenstrual phase when the emotional tension is normally accompanied by regressive reactions. We could not separate the craving and its unconscious psychodynamic motivations from the coexisting hormone conditions; we assumed, therefore, that the craving represented a reaction to hormone production.

The developmental history of this patient showed unmistakably that the food craving, as a neurotic symptom, was established long before the gonad cycle, long before the increase of receptive tendencies could be related to progesterone production. The psychosexual development of this patient resulted in the suppression of heterosexual tendencies and hence in the reinforcement of oral receptive and incorporative tendencies. To demonstrate the interrelationship between personality structure and the hormone cycle, this case was especially

suitable because her neurotic symptom was proved to be in clear relation with the hormonal cycle.

In Tables 24-27 we present four cycles of this patient which suffice to demonstrate the problems discussed.

Case VIII

This patient, an unmarried white woman, was thirty-four years of age at the time of her analysis. She was accepted for psychoanalytic treatment for the study of the psychodynamic background of her homosexual perversion and of dysmenorrhea in relation to the ovarian cycle.

Medical History: The patient's parents are living and in good health; there are no hereditary diseases in the family. The patient was a healthy child; she had the usual children's diseases: measles at the age of six, mumps at seven. At ten she developed rheumatic pains in her joints, diagnosed as latent arthritis; this condition persisted and improved only after her tonsils were removed at the age of twenty-six. In addition, the patient often had spells of stomach trouble with lack of appetite and nausea, which always secured special care for her from her parents. At the age of two and a half, immediately following the birth of her brother, she developed enuresis nocturna. This neurotic symptom continued until she was twenty-seven. At that time a psychiatrist whom she consulted told her that enuresis was a sign of insanity and that she would have to be placed in a mental hospital for observation if it continued. His therapy was successful; the enuresis cleared up after this threat.

Menstrual History: Menstruation began when the patient was about sixteen. It was irregular for several years, but dysmenorrhea did not develop until the patient was twenty. From that time on she suffered so severely from menstrual cramps that she often fainted. The cramps began with nausea and vomiting, before the onset of the flow, and reached a peak on the first day. For many years she had to stay in bed for the first day or two of menstruation. Her cycles were always short, twenty-one to twenty-five days; the flow lasted two or three days. When she was twenty-nine or thirty, the severe dysmenorrhea improved quite suddenly. Although the character of the menstrual cycle remained the same, she had no severe cramps, and nausea and vomiting occurred infrequently.

Pertinent Medical Data: The patient is well-built, is of normal weight, has very fair, transparent skin. B.M.R. is within normal limits. Blood pressure and pulse, normal. Gynecological examination showed no pathological findings.

Family History: The patient is of Scandinavian descent. Her father came to this country at the age of seventeen and lived with his older brother in a small town. When he was twenty-five he went back to Europe, apparently because he could not decide where he belonged. But again he was disappointed; he did not find what he was looking for in the old country and he missed the pioneer spirit of the United States. Then he decided to come back to this country. On the boat he met the girl who was to become his wife, the patient's mother. This was not a sudden decision, however. The young girl was traveling alone from Scandinavia to a western city, with the plan to marry a young man whom her father had chosen for her. After a year of hesitation she returned to the young man she met on the boat and they were married.

The patient described her father as a hard-working, jolly man who liked to sing, to joke, to tell stories. He was fond of his children and took pride in his work, but financially he was not successful. He earned scarcely enough to sustain his rapidly growing family. The marriage was not congenial. The patient's mother was a highly neurotic woman who was always hampered by indecision. She found the children and the household duties too much for her. She would be overconcerned about one thing and would neglect another, and the children suffered from this inconsistency. She believed in ghosts and in spiritualistic phenomena and often frightened the children by telling them of foreseeing death. She was very dependent on her husband but did not know how to be his companion. She would not leave the house for months at a time, but was unhappy because her husband went out with jolly company. Sometimes she would withdraw from the family completely; she would not talk for several days or she would threaten to commit suicide. She often acted in this way when she felt inefficient in managing the children. Depressed, full of doubt and therefore ineffective, she dominated her husband and children by means of her neurosis.

The patient was the eldest of six children. When she was ten months old a sister was born but the child died at birth. This infant was buried under a rosebush in their garden near the home. The patient's awareness of this dead sibling was a factor of great emotional importance in her development. When the patient was two and a half, her oldest brother, R., was born. Although he was a sickly baby and never became a successful competitor with the patient, his birth represented a serious trauma for the patient and was the cause of her decisive developmental fixation. This brother was a good-hearted, passive, dependent person but occasionally he had temper tantrums. The patient accused him of everything for which she did

not wish to be blamed. The second brother, E., was born when the patient was three and a half. The patient really liked this second brother; she concentrated all her hatred and jealousy on the elder one. E. was an attractive baby who grew up to be a bright boy, the mother's favorite son. The patient was proud of him. When she was five, her sister, A., was born. A. was an unattractive fat baby who developed into a plump child; she was slow in intellectual development and became the scapegoat of the older children. The youngest child was a boy, K., ten years the patient's junior. Emotionally he was as much the patient's baby as the mother's. He remained the baby of the family, indulged by everyone. In contrast to her feeling for her sister, whom she hated and tortured, the patient pampered this brother and showered him with her immature love.

Developmental History: The early development of the patient was swift and premature. We get this impression from many secondhand recollections which the patient recounts. The family cherishes remarkable stories of her early activities which give us a good picture of her physical and psychological development.

The patient was not breast-fed, for the mother became pregnant again shortly after her birth. She learned to walk unusually early. A significant story is that the parents had to lock the gate carefully because she often ran away from home after the baby's death. Another remarkable story from about the same period is that she would often go to her mother, smile sweetly at her, and then bite her suddenly in the thigh as hard as she could. We may explain this manifestation of her ambivalence toward her mother as a reaction to the pregnancy. Although we are familiar with psychoanalytic concepts which interpret such activity as aggression toward the content of the womb (Klein, 1932), we are nevertheless surprised by the unusually aggressive behavior of this little child. She used to pull up the flowers in the garden and bring them to her mother. Perhaps she wanted to tell her mother something about the baby buried under the rosebush. Many of her dreams would lead to this conclusion. The following, taken from the second year of the analysis, is an example.

I was walking in a street and passed a house where there were little flowerpots and plants. I wanted some of them very much and I hoped that the woman to whom they belonged would offer me some, but she did not. I went away and saw some more plants elsewhere. Then I came back to the first place and I knew the people better now. They let me have some of the plants. I was dividing roots in the flowerpot. There was a little glass vase which also had a plant in it, but it had died already. I thought if the people had just given me the plant, I could have saved it.

In her associations she connected the plants with the babies. At this point we do not wish to emphasize her wish to receive the plant—the child which the mother had; this motivation of the dream will be taken up later. It was in connection with this dream that she talked for the first time about this earliest trauma of her life. "There was a baby between my brother and me, a girl, the one they buried under the rosebush. I was ten months old and my mother was sick for a long time. Mother told me she was in bed for six months. I took over my mother's feelings toward the rosebush; I did not dare to play around it; it was like stepping on graves; something might happen." Even more significant is her report that for five or six nights before this dream she had been grinding her teeth so that her jaws were tired in the morning. This dream clearly brought out the relationship between her early aggressive biting and her reaction to the birth of the first sibling. The patient went home shortly after this material had been analyzed and asked her mother about the details of this childbirth and about the deceased baby. She was astonished to hear that her mother had been sick in bed for only six days—not six months as the patient had imagined in spite of having frequently heard the actual facts. This slip in her recollection shows her need to aggrandize her reasons for resentment toward her mother which she had felt at the time this baby was born. This resentment she acted out in other ways: when she was less than two years old she threw her mother's embroidery scissors into the pig pen, and once she threw to the pigs a dish of meat that the mother had prepared for the family. The parents gave a dog to this aggressive little girl for a playmate. In the patient's conscious recollections and also in her dreams, this dog was intimately connected with childbirth and children. The dog became a mother-symbol for the patient; toward it she could act out her ambivalent feelings without inhibition. Often the patient was found with her mouth full of black hair because she had bitten the dog. The dog frequently had puppies; the patient threw one litter into the well. The dog also played the role of a nurse for the other children; it would lie under the cradle of the newborn babies, watching and protecting them. This made the patient so jealous that she would act out her anger toward this mother-substitute.

According to family recollections, the patient was precocious in walking and other activities. She was trained to cleanliness very early. The mother often relates how she used to leave a light burning in the bedroom, where both parents and patient slept, so that the little girl could get out of bed and use the pot by herself without disturbing the parents. This early independence in toilet habits is especially important in the evaluation of her severe neurotic symptom—enuresis.

Both parents loved and indulged this clever, active, little girl. They devoted all their attention and free time to her in the first two and a half years of her life. Her mother rarely left the house; she spent all her time on her household duties and her child; she was alone with the little girl for almost all the week, since the father came home from work only on Sundays and free days. On these occasions the child was the center of his attention. He played with her constantly, so that when again he left for work the mother had a hard time readjusting the child to his absence. At that time the patient felt toward her father none of the aggression which she felt toward her mother; her attachment to him was not disturbed by the trauma which made the relationship to the mother so full of conflict.

A reconstruction of the early development of the patient leads us to assume that she reacted to the birth and death of a sibling when she was not more than ten or twelve months old. It is possible that the death of the baby and the burial in the garden troubled and frightened her more than its birth. The patient tried to avoid the garden. Perhaps she even tried to exhume the baby by pulling up the garden plants. With this trauma we connect her oral aggression toward the mother, her biting tendencies. Her ambivalence toward the mother, however, must have had further motivation. The early training to cleanliness, which was such a satisfaction to the mother, could also have activated the child's resentment. The growing independence of mastering the sphincters is usually accompanied by motor-activity and aggression toward the environment. The patient turned her precocious independence against her mother; biting, motor-aggression, and disobedience were only the first manifestations.

The next sibling, her oldest brother, R., was born when the patient was only two and a half. One outstanding reaction to this event was that she gave up her much praised cleanliness and became enuretic. Such a regression is not unusual at an early age; it is easily motivated by the desire to be the baby again. Though this wish could have initiated the regression in this case, it hardly explains the severity of the symptom. In spite of careful training and medical treatment, she did not overcome the enuresis until she was twenty-seven. This difficulty was not just a simple regression to the level of babyhood, it became a neurotic symptom with an intricate psychodynamic structure. Indeed it became the focal point of all her developmental disturbances. Here we must examine the psychodynamic motives of this developmental fixation in order to ascertain its influence upon the further psychosexual development of the patient.

Although the enuresis was "cured" and was not a symptom when she started analytic treatment, it dominated the analytic material in

various ways. At this point we are interested in its connection with childbirth, the problem which recurs so often in her dreams either in the manifest content or in symbolic form. We quote several dreams which occurred early in the analysis.

December 11. Body of water like a lake. Number of rafts going together. One could dive from five or six of these squares. I could not decide what I was seeking. They looked happy but I was afraid that they were going to drown.

We note the "five or six" in this dream as a reference to the number of children in her family.

January 6. Water all over. It seemed to belong there. There was a little dry place where we were standing. My brother R. and my cousin U. were there. R. became poetical. Pointing to the water he said, "Here is a stone tower and here are trees, evergreen trees arising from the water."

We do not go into detail about the analysis of these dreams. The repetition in itself is conspicuous. The following day she dreamed thus:

January 7. Catastrophe, flood, or war. People running from one place to another. It was not dangerous. I was with my sister. We came to a river. For some reason I decided I had to bring my sister to the city on account of her baby. She was going to have a baby.

In this dream she repeated her flood symbolism in connection with the usual commotion at the time of the birth of a child. This dream was three days before her next menstrual flow started, on January 10. On January 12 she related the following:

Some children sliding down a big marble stairway. Part of the marble was red stone.

It is easy to recognize the influence of menstruation on this dream, which in its symbolism is one of her many birth dreams. In the next analytic session she tells the following reluctantly.

January 19. Room with a lot of little beds in a summer camp. My father and I were on an animal farm. My father bought a sheep which had four little lambs. They looked more like poor little dogs. They were bleeding. It had hurt them, being born. Father told me to be careful with them. I put them all on one chair. Someone else pushed them on the ground.

Associations to these dreams bear out the main points of interest to us. Even in the manifest dream content we recognize her typical womb symbolism, "the small room," to which she associates "the

simplest way to sleep for as many people as possible." The "sheep" is the mother, and the "four little lambs" are her four living siblings. The ambivalence toward them is clearly expressed. Further associations to this dream are the bed, in which she slept as a child, and her bed wetting. In this connection she says: "I ran around on the cold floor when my brother R. was born. I caught a cold and began to wet the bed and I have wet the bed ever since. Mother was terribly sick every time a baby was born. We did not care, we were running around."

We know her mother was actually not "terribly sick," but the patient clung to this idea which originated in the traumatic experience of her brother's birth when she thought that something "terrible," "catastrophic," was happening in the home. With these associations she presents a rationalization for the bed wetting. She caught a cold and became sick like her mother. The symptom was soiling the bed with urine, as the mother had soiled hers with blood. She dreams and has fantasies repeatedly about bloody sheets, bloody lakes, floods tinted with blood. In fact this material recurs with little variation in almost every premenstrual or menstrual phase. It is the typical expression of her "eliminative tendency" and is always combined with direct or symbolic expression of the enuresis.

In reconstructing the pertinent material, we assume that the birth of the brother made a deep traumatic impression on her; the blood, the pails of water, the excitement, the mother's condition frightened her. Perhaps this excitation caused the unusual urinary urgency. At any rate it created an intrinsic association: *bleeding (uterine)—urination*. Thus we assume that the patient at this time identified herself with her mother in childbirth. The symptom of this identification permitted her, as its secondary gain, to get at least a part of the attention that the mother received. Later it allowed her to get attention such as the baby brother had. *Such an identification with the mother at this early age, and on the level of "eliminative tendency," is an unusual explanation for enuresis. We should not submit it here as one of the motivations of this patient's enuresis if her cyclical premenstrual material had not proved it. For her, vagina is identical with urinary tract; the discharge from it, birth or menstruation, is identical with flood, urination.*

Whenever the progesterone function was declining or low, and, corresponding with it, the "eliminative tendency" dominated the psychodynamic material, we noted the repetition of this complex.

Although we assume that the enuresis was the expression of the identification with the mother in childbirth, we know that this was not its only motivation. We mentioned above the secondary gain in se-

curing attention. Later on the patient became aware that this symptom was a weapon against her mother; it was her means of revolt against her mother's indulgence and weakness. The later development of the patient shows an even more complex dynamic overdetermination of the symptom which became the main expression of her bisexual tendencies.

Although the mother did not nurse any of her children, the sickly R. required a great deal of care. While the exhausted and indecisive mother was worrying about the enuresis of the oldest child, about her sickly baby, she became pregnant again. The next brother, E., was born when the patient was three and a half. Her first conscious recollection dates from this event. It does not deal, however, with the childbirth or with the mother. It is a pleasant memory about the father. It was Easter and her father brought little presents to her and to R. R.'s was a little rabbit, and hers a goose with wings which opened on the side. This recollection serves to screen all the unpleasantness connected with the childbirth. It is a denial, as if to say, "This birth was not a trauma." Indeed the birth of E. was not a trauma in the sense of producing a new regression. Her regression was established. She now identified herself with the baby, who needed care. R. had not been a real competitor because the patient had remained the center of the family even after his birth. E., however, was different; he was a healthy baby and he became the mother's favorite. He grew to be a bright, lively boy in contrast to the older brother, and he now became the center of the family. The patient's conscious reaction to this brother originated in her mother identification; she loved him as the mother did. Her admiration for him concealed the jealousy and envy which later became clear during the analysis. As the eldest child, she felt superior to the brothers; she treated them very much like the little lambs in the dream, pushing them around. At night, because of the enuresis, she was like the weak babies. She was always the father's favorite; he played with her and indulged her when he was at home.

When the patient was five years old, her sister A. was born. To this child the patient reacted as to an intruder, a female competitor—she hated her. This little girl also became the scapegoat of the other siblings; she provoked their abuse with her slowness, homeliness, and helplessness. After she had gained some insight from the analysis, the patient said: "I never let her grow up. I took all my father's attention to myself. I left her out. I dominated her." Other statements of the patient illustrate her relationship to her father: "The more time mother gave to another baby, the more father gave to me. I was thrown back to father all the time." Although we would expect the

patient to have developed a fixation to a strong, protective father, this was not true; her analysis never disclosed the concept of a sexually potent man.

In the beginning of her analysis the patient reported an important recollection. When she was about five, at about the time her sister was born, she used to run away to watch the horses in a neighbor's barn. She was very much impressed and excited by the horses' urination. In this memory we see an important transition in her psychosexual development. About this time, it seems that the father's sexuality became a threatening reality. She had reached her "oedipus relationship" but had repressed it and turned away from it by going to the barn where she was fascinated by the horses' urination. This was a "flood" in comparison to which the father seemed impotent. That she had this feeling about her father at that time, we could see in the analysis, in many dreams about castrated men. To these dreams she associated the wish to humiliate and castrate men, to intoxicate and weaken them by giving them dope or liquor. Here we find the second important psychodynamic motivation of her enuresis. She admired the horses' micturition as an expression of powerful masculinity. Furthermore she could marvel at it without guilt and fear. At the same time her enuresis became the expression not only of her identification with the "soiling" mother and with her baby brothers but also of her concept of masculine potency. In her fantasies, urine was the means of fertilization, impregnation, and also of intoxication. She fantasied poisoning her siblings with her urine, which represented a secret power and masculinity.

We see further that when the patient reached the oedipus level of her development, instead of adapting herself emotionally to the "sexual danger" she repressed the concept that her father's genitals were fearful. She compared them unfavorably with the horses' genitalia, in this sense castrating her father. The father's sexuality, his urination, was inferior to that of the horses and was similar to her own urination. Thus on the level of her urinary fixation, she identified herself with a man. According to her concept, all men were castrated like herself. Consciously she always depreciated men. One of her recurring dream symbols for penis is "dirty foot," or "foot which is hidden," which can be "cut off and replaced again and again by prosthesis." When the patient was nine, she visited an uncle whose hand had been cut off by a machine. Shortly after she cut her finger in a machine and for a long time wanted to have her arm in a sling, thus acting out her identification with the crippled, impotent man.

The outcome of the oedipus complex of this patient was a regression to, and intensification of, her urinary fixation. Her "bisexuality"

originated here and was fixated in this psychosomatic symptom. The enuresis expressed (a) identification with mother-eliminative tendency—soiling, bleeding, childbirth; (b) identification with brothers—regressive wish to be cared for; and (c) identification with father—the regressive concept of potency. The result of these conflicting psychodynamic tendencies was the concept that not only was she impotent like her baby brothers but that all men were impotent like herself. By this token she did not need to feel endangered by her father's sexuality. This strong defense was made necessary by her father's attitude toward her. His relationship to the daughter was unusual. He was not manifestly seductive to her in a sexual sense, but he made this child a close companion when she was scarcely six or seven years old. A premature comradeship developed between the patient and her father, which she describes as follows: "Father and I ran the family. We went downtown Saturday evening. We bought everything, clothes for mother, dresses for the children. Mother sometimes did not leave the house for months; she was too busy; she did not trust anyone with the babies." Even as a child the patient was aware that her father accepted her as a substitute for his wife. This increased her guilt toward her mother but did not elevate her father in her eyes. It became one of the factors which separated her from her mother. She therefore found it necessary to devalue her father, to think of him as a weak, childish, castrated figure, like her siblings.

Summary of the Preoedipal and Oedipal Development: The patient encountered three severe obstacles to her development during the first five or six years. (1) At ten months of age, a sister was born and died, an event to which she reacted with an intensification of oral aggression. (2) At two and a half, a brother was born. To this event she reacted with identification with the mother on a urinary, soiling level and she developed enuresis, which expressed also the regressive desire to be a baby. (3) At four or five, about the time when her sister was born, her heterosexual interest was activated by and directed toward the father. She reacted with a regression of the genital desire toward the father and with the wish to castrate him, and she then identified herself with the male on a urinary level. Thus the symptom of enuresis became the expression of both feminine and masculine tendencies and produced a fixation which interfered with her normal feminine psychosexual development.

Preadolescence and Adolescence: The outcome of the oedipal phase of the patient's development, which was a regression to a pregenital level of sexual development, resulted in an increased unconscious need to be taken care of by her mother as a baby. While she unconsciously longed for her mother, her father's attitude made her become a "little

adult," superior to her mother. Although this status gave her a great deal of gratification, which she expressed toward her mother as well as toward her father, she learned to depreciate them both. She treated her siblings with the narcissistic superiority of a chosen individual; she dominated them emotionally and made them servile to her own demands. The regression of her genital sexuality to a pregenital bisexuality, the enuresis, the relationship to her father, all kept her in a state of increasing excitation. She began to masturbate excessively when she was about eight and continued until adolescence. When she was ten she seduced her brother E. to sexual play in which she was active in imitating intercourse. For a much longer period she carried on sexual play, mutual masturbation with her sister A., who was passive and dependent and did everything she was told. In this relationship the patient displayed sadistic tendencies. When she was twelve she had a sexual relationship with a girl of her own age in which the patient was masochistic and dependent on this girl. This attitude was not to be ascribed to the personality of the partner alone but rather to a change in the patient who underwent an important, although regressive, character transformation at the age of ten to twelve. This change originated in her conflict with her mother, in her sense of guilt toward her.

We have mentioned her statement that she and her father managed the household. Her feeling of superiority toward her mother grew stronger and stronger when she was between seven and ten and continued undisturbed until the mother became pregnant again. This pregnancy activated the patient's oedipus wish—the desire to have the child of the father, the desire to take the mother's place with the father. Although she repressed this wish, her sense of guilt increased and she became insecure and indecisive like her mother. She was afraid to continue in the role given to her by the father. Of this period the patient says: "I was doubtful and full of anxiety. I was unable to choose goods or dresses for mother or for the children when I went with my father on our shopping trips. Although I was doing the best I could, I was afraid of what my mother would say when I came home. But even her approval did not relieve the fear; her reassurance did no good." This was the beginning of her uncertainty which increased to the point of becoming a real compulsion. At ten, when her brother K. was born, she accepted him on a conscious level as her own. This baby was not her competitor; he was her child. The mother and the daughter competed with each other for him with the result that he became a spoiled child.

While the patient felt fearful and insecure when she was with her father, she played a superior role toward the mother. She says: "My

mother lost her head in any emergency. I did not. I scolded my mother." Though the mother resented it, indecisive as she was, she became dependent on her daughter and at the same time envious and jealous of her. "I knew things before mother did. This hurt her. I don't have to do anything to make her feel badly. She is helpless about many things—poor mother." Weak and helpless as the mother was in her superficial behavior, she dominated the family through her martyrdom and frightened the patient with threats of suicide. This made the patient feel guilty and fearful of losing her mother. The more helpless and hostile the mother acted toward the patient, the greater became the latter's emotional conflict. The weak mother challenged her competition, her sense of superiority, thus activating her guilt feelings. While the patient treated the youngest brother as an affectionate mother, she also wanted to get rid of the burden of being the mother. Consequently her need to regress, her need to be the baby, increased. The care which she gave the youngest brother was sponsored by her own regressive wishes; she took care of him as she wished the mother to take care of her. The enuresis was an expression of this wish. Her defense against her sexual guilt expressed itself in rage against the parents' sexuality and against her siblings, since they were the result of that sexuality and since they were also objects of her own sexuality. Her hostility toward her father found an outlet in her depreciation of him; in her dreams and fantasies, men were castrated. Toward the brothers she expressed this same attitude by means of her sadistic superiority. This castration tendency, however, which originated in a need for defense against the sexual danger represented by man, was not burdened by guilt and anxiety. The hostility toward men did not represent so great a conflict as her rage toward her mother. This rage, which had its origin in her sexual guilt, was fraught with anxiety; she was afraid she would lose her mother, and because of her fear she clung to her with a highly ambivalent dependence. Her infantile biting tendencies were revived; she feared starvation. She sought to avoid the anxiety by becoming passive and submissive. She could not give in at home, however; she had played the superior role too long, at least on the surface. But in her preadolescent homosexual relationship, she became a passive, masochistic, obedient girl in order to be loved. From this time on her emotional life was characterized by the fear of losing love.

We recount the motives of this characterological development. When the patient was ten she experienced a revival of her oedipus complex, activated by the pregnancy of her mother and by the seductive attitude of her father. Her genital competition with the mother for the child was closer to consciousness at that time than ever before;

it was burdened by guilt feelings and was punished by the resentful and hostile attitude of the mother. Thus her psychosexual development did not progress to a successful identification with the mother but regressed to the patient's main developmental fixation, to urinary gratification and to an increase of her bisexual tendencies. The bisexual excitation at first enhanced her sexual activities and her aggressive tendencies. As a result, a vicious circle was set up. The first reaction to this emotional impasse was a manifest emotional confusion and doubt; she did not even dare to know what she wanted. She could not become a woman and she was not a man, so she took refuge in being a child, clinging with hostility and guilt to the mother; but the anxiety necessitated a strong reaction formation against her hostility and against her sexual desire. After her homosexual experience, she tried to fight against her sexuality; she went to church regularly; she developed self-accusations; she became overconscientious in her schoolwork and in her relationship to her siblings. Thus we see the development of a compulsive neurotic character formation as a result of repeated repressions. Slowly the patient succeeded in repressing manifestations of her sexuality and she gave up masturbation entirely after menstruation was established.

The patient was sixteen when her first menstrual flow occurred. She had received her first information about menstruation at the age of twelve from the girl with whom she had homosexual activities at that time. The girl told her about a "passage of blood." The patient did not want to believe what this girl told her, but she watched her mother's bed and finally she did find spots of blood. When a girl in the neighborhood died, the patient's unconscious anxiety about bleeding related this girl's death to menstruation. Fear of bleeding and half-conscious memories of childbirth filled her with anxiety about growing up. Because other girls she knew had started to menstruate much earlier, she feared she would never menstruate because she had damaged herself by masturbation. When menstruation finally occurred, she felt relieved, though it came at long intervals and irregularly during the first two or three years. Later on, the menstrual flow occurred regularly but in short intervals, twenty-one to twenty-three days. When the patient was twenty, she began to suffer from severe dysmenorrhea which forced her to interrupt her work and stay in bed for one or two days. This symptom improved at about the age of twenty-eight, possibly as a result of a sexual relation.⁷ Other symptoms ac-

⁷ It is interesting to note that during the course of analytic treatment the severe dysmenorrhea recurred only once, when a friend had a baby. We should also note here a hereditary influence. Scandinavian women, as a rule, begin to menstruate late. The patient's mother, born and raised in a Scandinavian country, began to menstruate at the fourteen. The patient's sister started at the same age. But the patient was even slower in her development than the other females of her family.

accompanying menstruation are that she bites her mouth constantly during the days of the flow and that she has eruptions in her mouth.

A thorough study of the psychosexual development of this patient leads us to the conclusion that her late and insufficient physiological development is a somatic correlation to her complicated psychosexual development. The patient's first severe regression occurred when she was two and a half, when enuresis became the outlet for her feminine identification. This fixation to the urinary function afforded gratification of her passive need but it became overdetermined also and expressed a masculine identification as well. At about the age of five, when she needed to defend herself against sexual temptation, instead of making a feminine identification with the mother she entered a phase of masculine identification with the father whom she depreciated. This bisexual fixation determined her later development. When the patient was ten a similar developmental disturbance occurred. Again, instead of developing in a positive feminine way, she was thrown back to the bisexual fixation of her earlier developmental phase. We assume that this bisexual character of her sexuality represents the fixation to the urinary function as we described it previously.

The patient's adult life is a confused repetition of her infantile object relationships, of her relations to her father and her mother. Several times the patient had opportunities to marry young men of her family's social station but she rejected them. She became independent professionally. In her work she met a married man many years older than she and a Platonic friendship developed between them. He was fatherly, goodhearted, protective, and oversolicitous toward her. She lived for several years with the mother of this friend, a complaining, domineering old woman who exploited the patient's emotional situation. It is easy to recognize the repetition of her relationship to her father and mother in this friendship. She continued to suffer from compulsive indecision and from enuresis. Since her adolescence she had not consulted a physician about this symptom; she was twenty-seven years of age when she sought the psychiatrist who cured her by an emotional shock. We assume, however, that she was emotionally ready to give up the symptom because shortly after this "cure" she began to be more interested in men. The relationship with her fatherly friend did not change, but she had a flirtation with another man which led to her first coitus. She was then twenty-eight. The heterosexual relationship seems to still have been burdened with preadolescent guilt toward her mother, because immediately after her first heterosexual experience she sought protection against her heterosexual desires in a homosexual friendship. Her life with Miss X was full of conflict.

Their relationship was peaceful only when the patient played the role of a baby toward Miss X, who in return liked to take care of her. She would bring food to the patient's bed, talk to her softly, often even using baby talk.

At the same time the patient had fantasies that she was lying in bed as a mother, just after the delivery of a baby, and was being cared for as a woman in the postnatal period. We see in this fantasy and this play a gratification of all the needs which brought about her emotional fixation at the age of two and a half. But this gratification was seldom permitted; the patient found another way to relieve her identification with her mother, but in a less gratifying manner. For a while she lived with a number of friends in a harassing environment. In spite of her wish for rest, sleep, quiet, and consideration, she endured a household of disorder, strain, and carelessness. This living arrangement was another repetition of her mother's life; the several girls were substitutes for her siblings; she was harassed as her mother was; she complained as her mother did. She was unable to free herself from this situation because the need to repeat her mother's life was imperative. Not only her dreams and symptoms but also her whole life shows the fixation to and the repetition of the life which her mother lived. She wanted to be like her mother, yet she tried to revolt against such a life; she wanted to submit to her mother, yet she tried to free herself. But freedom involved the danger of losing her mother's love, which she could not give up without great anxiety. This was the emotional situation of the patient when the psychoanalytic treatment began.

Summary of Developmental History: We have described the six transverse sections of the patient's development, which appear in tabular form below.

| DEVELOPMENTAL PHASE | THE TRAUMATIC EXPERIENCE | REACTION: REGRESSION TO | SYMPTOMS |
|---------------------------|---|--|--|
| I Age, 10 months | Birth and death of first sibling. Training in toilet habits | Intensification of oral aggression. Motor aggression | Biting. Development of ambivalence toward mother |
| II Age, 2½ years | Birth of brother, R. | Identification with mother on eliminative level. Regression to urinary gratification | Enuresis. Hostility toward mother and sibling |
| III Age, about 5 years | Birth of sister, A. Height of heterosexual interest in father | Repression of heterosexual interest in father: increased interest in urination. Castrative tendency toward father and brothers. Masculine identification | Enuresis. Hostility toward mother and siblings, especially toward sister. Sadism toward siblings |

| | | | |
|---------------------------|--|--|--|
| IV Age, about 10 years | Birth of brother, K. Revival of oedipus complex | Regression of heterosexual desire; competition with mother for the child. Identification with baby | Increased hostility. Anxiety. Doubt. Sexual activities. Enuresis |
| V Age, 12-16 years | Protracted preadolescence | Regression of heterosexual and homosexual tendencies | Development of compulsive neurotic character |
| VI Age, about 27-28 | Gives up the neurotic gratification of enuresis. Heterosexual activity | Increase of fixation to mother. Identification with mother and desire to be the baby | Fear of loss of love. Homosexual activity |

We studied the complicated psychosexual development of this patient in order to investigate the interrelationship between the structure of her personality and the pattern of her hormone cycles. We studied 20 cycles. The variations of her sexual cycles are demonstrated in the following table; the figures represent the day of the cycle on which the particular hormone production as stated in the column heading was diagnosed.

TABLE 12

CASE VIII

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|--------------------|---------------|---------------------------|--------------------|-------------------------|------------------------------|---------------------------|----------------------|-----------------|---------------------|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone. | L.H.L. | Increasing Estrogen |
| V | 1 | 2, 5 | 3 | 4, 6 | | 7 | 8, 9, 12, 13, 14 | 10, 15 | 11 | 16, 17, 18, 19 | | 20 | |
| VI | | | 1, 2 | 3 | * | 5, 13 | 6, 7, 3, 9 | 14, 15 | 10, 16 | 17, 18 | 11, 12 | 19 | |
| VII | 1, 2, 4, 8 | 3 | 5, 6 | 7 | | | 11 | 9, 10, 12, 13 | 14, 16 | 15, 17, 18, 19, 20, 21 | | 22 | |
| VIII | 1, 2, 3, 4 | 5 | | 6 | | 7, 8, 10 | | 9, 11, 12, 13 | 15, 16 | 14, 17, 18 | 19, 20 | 21 | |
| IX | 1, 2, 3 | 4 | 5 | 6, 7 | | 8 | 10, 11, 13 | 12, 14, 15 | 17 | 16, 18, 19, 20 | | 21 | |
| X | | 1, 2, 3 | 4 | 5, 6 | * | 7, 8, 9, 10 | 11 | 12, 13 | 15 | 14, 16, 17 | | | |
| XI | 2 | 3 | 4, 5 | 6 | * | | 7, 8, 9 | 10 | 12, 13, 14 | 11, 15, 16, 17, 18 | | 20 | |
| XIV | 1, 2, 3 | 4 | 5 | 6 | * | 7, 8 | 10, 11, 12 | 13, 14, 15 | 17, 18, 19 | 16, 20, 21 | | 22 | |
| XV | 1, 2 | 3 | 4, 5, 6, 7 | | | | 8, 9, 14 | | 10, 11 | 15 | 12, 13 | | 16, 17 |

NOTE: Where days are omitted comparative material was not available.
 * Comparative material was lacking for the ovulatory period, thus ovulation could not be stated

CASE VIII (Continued)

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|--------------------|---------------|---------------------------|-------------------------------|-------------------------|------------------------------|---------------------------------|---------------------|----------------|-------------------------|--|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L. | Increasing estrogen | |
| XVI | | 1 | 2,3 | | | 7,8,9 | 4,5 6 | 10,11 | 15 16 | 12,13, 14, 16 17 20 | 19 | 21 23 24 | 22 | |
| XVII | 4 | | 1,2 | 3,17 | * | | 8,9, 10, 13 20 21 | 11,12 14,15 18 | 16 | 19 | | 22 | 23,24 | |
| XVIII | | 2 | 4 | | 5 | | 7,8,9 10 21 | 11,12 15,16 22 | 18 | 17 20 | 19 | 23,24 | | |
| XIX | | | 1,2 | 3 | 4 | | 5,6 8 9,10 | 7 11,13 | | 13,14, 15,16 17 | 18 | | 19,20 21,22 23 | |
| XX | | | 1,2 | 3 | 4,5 | | 6,7,8 9,10 | 11,12 13 | 14, 16,17 18 | 15 19 | | 20 22 | 21 23 | |
| XXI | | | 1 | 2 | | 3,4,5 6,7 | 8 | 9,10 11,12 | 13, 16 | 14,15 17 21 | 18,19 20 | 22,23 24 | | |
| XXII | 2,3 | | | 1 4 | 5 | | 6,7,8 9 | 11,12 | 13 18 | 14,17 | 19 | | 20,21 22,23 | |
| XXIII | | 1 | 2,3 | 4,5 | 6 | | 7,8 9,10 | 11,12 13 | 14,15 16 | 17,18 19,20 | | | 21,22 23,24 | |
| XXIV | | 1 | 2,3,4 5 | 6,7 | | 8,9 | 10,11 | 12,13 14 | 15 | 16,17 18 | | | 19,20 21,22 23,24 | |
| XXV | | 3 | | | * | 4,5,6 | | 8,9 10 14 | | 16,17 18,19 20 | | 21,23 23 | | |
| XXVI | | 1 | 2,3 | 4,5 | | 6,7,8 9 | 10,11 | 12,13 14 | 15,16 | 17,18 | | | 19,20 | |

This table, like Table 1 in Chapter 2, shows that the hormone cycles of this patient were short, averaging 23.3 days with a range of 17-28 days. Ovulation was found in 5 cycles; in 9 cycles, luteinization of follicle was diagnosed; in 6 cycles, diagnostic material was not available on the crucial days. The table is a record of cycles 5-26. The first 4 cycles were omitted because the material was too scanty to be of value. It is noteworthy that no ovulation occurred in the first 12 cycles presented. It is not impossible that Cycles VII and XVII were ovulatory cycles, for the days with no material may have been the crucial days; at least 10 of the 12 cycles were diagnosed as anovulatory. Three ovulatory cycles follow, there is again luteinization of

follicle in one cycle, and finally two ovulative cycles. This suggests a definite change in the patient's hormone production during the therapy. Whether this was a lasting change and a result of the psychoanalytic treatment, we do not know. These cycles may have occurred with the change in her life situation, induced by the analysis, for during this latter period, she had coitus almost regularly. Perhaps the ovulations in these cycles are the result of actual stimulation which had increased the hormone production. In the ovulative cycles, ovulation occurs early in the cycle—the estrogen phase starts during the menstrual flow and continues uninterruptedly until ovulation occurs. This is seen in Cycles XVII–XVIII, XIX–XX, XX–XXI, XXII–XXIII. It also occurs in some of the anovulative cycles, as in Cycles XVI–XVII, XXIII–XXIV, XXVI.

Other anovulative cycles are at a much lower level of hormone production and follow a different pattern. In 10 cycles the menstrual flow ends at a low level of hormone production. (See Cycles V–XIV). In these cycles there is a short variable estrogen phase followed by luteinization of the follicle; the progesterone phase is relatively long and variable (6–11 days). In these cycles, the initial premenstrual estrogen production was reduced and followed a period of low hormone level preceding the menstrual flow. It is clear that there is a characteristic difference between the first 12 and the final 8 cycles of this patient. The former are characteristic of a somewhat insufficient hormone production; the latter are essentially normal, with the one peculiarity that follicle maturation begins premenstrually and proceeds uninterruptedly. In these cycles the menstrual flow not only indicates the end of the preceding cycle but also a part of the new cycle. Consequently the cycles are short, and ovulations occur more frequently than is usually observed. Her libidinous tension shows a parallel ebb and flow. No special symptoms were markedly exacerbated in relation to a specific hormone state. We observed that her doubts and indecision became greater and that her insecurity increased when her hormone level was low; her tendency to withdraw was often so great that she missed her psychoanalytic appointment. When there was variable but not high estrogen production she felt pleasant, and the analyst often noted that she was "in an amiable mood." She became aggressive and complained that "she felt mean" when her emotional tension increased, either in relation to increased or to decreased hormone production. It is interesting to investigate her mood swings during the premenstrual phase when there was increasing estrogen production.

On the last day before the flow, we found these mood changes in relation to increasing estrogen to be as follows:

| <i>Cycle</i> | <i>Emotional State</i> |
|--------------|--|
| VI | Very cheerful. |
| VIII | Narcissistic, loving feelings. Headache. |
| XV | Heterosexual desire, headache. |
| XVI | Sexual tension, cheerful. |
| XIX | No psychoanalytic material. |

In relation to hormone reduction, low hormone level, we found the following mood changes on the last day before onset of the flow :

| <i>Cycle</i> | <i>Emotional State</i> |
|--------------|--|
| V | Hostile, irritable, rage reaction. |
| VII | Great anxiety; wants to be feminine. |
| IX | Sexual desire starts with the onset of flow. Depressed. |
| X | Feels well. |
| XI | Feels depressed; depression lifts on day before flow. |
| XIV | Tired, depressed. |
| XVII | Feeling of pressure. No sexual feelings. |
| XVIII | Feeling of pressure. No sexual feelings. |
| XIX | Relaxed; feels gay after onset of the flow. |
| XXI | Quite aware of female genitals; defense against heterosexuality. |
| XXII | No material. |
| XXIII | Feels lonesome, withdrawn. |
| XXV | Headache, depressed. |
| XXVI | Heterosexual desire. |

The tabular summary of the premenstrual mood-swings seems to yield a simpler correlation than in our other cases. She seems to be in an amiable mood and has sexual desire when there is estrogen production, and in general she seems to be depressed and withdrawn when her hormone level is low. On two low hormone level dates we note relaxation or sexual desire that is suggestive of the emotional reaction to estrogen which actually appeared in the vaginal smear of the next day. If we compare her emotional reactions to the premenstrual estrogen production with the emotional manifestations of other individuals in similar phases, we recognize an important difference. In the premenstrual phases of Cases I, IX, XI, and others, we found that corresponding to increasing estrogen production the sexual desire is accompanied by anxiety, fear of castration, or excitement which cannot be explained on the basis of the hormone production alone. In this patient, however, the premenstrual-menstrual estrogen production has emotional accompaniments similar to those of other cases in postmenstrual-preovulatory phase. The emotional cycle seems to corroborate the hormone cycle—the premenstrual-menstrual estrogen and

although it coincides with uterine bleeding it belongs to the estrogen phase of the next cycle.

During the twenty cycles there were 202 comparative data; the hormone production was predicted correctly for 192 days; there were 2 complete and 10 partial discrepancies. Estrogen was diagnosed for 101 days, progesterone for 97, and estrogen and progesterone for 45. Thus 45 days are carried in both the estrogen and progesterone columns. Low hormone level was stated on 51 days. The variations in hormone production were predicted by evaluation of the following psychodynamic tendencies:

| | |
|---------------------------|-----------|
| Estrogen Correlations: | 79 |
| Heterosexual tendency | 24 |
| Masculine identification | 46 |
| Infantile sexual tendency | 3 |
| Homosexual tendency | 19 |
| Hostility | 3 |
| Exhibitionism | |
| | <hr/> 174 |

| | |
|--------------------------------|-----------|
| Progesterone Correlations: | 26 |
| Narcissism | 63 |
| Mother conflict | 31 |
| Relation to child | 35 |
| Receptive tendency (infantile) | 10 |
| Dependence | 5 |
| Nursing | 20 |
| Homosexual tendency | 3 |
| Urinary and anal retentive | |
| | <hr/> 193 |

| | |
|---------------------------------|-----------|
| Low Hormone Level Correlations: | 15 |
| Genital eliminative | 31 |
| Anal and urinary eliminative | 13 |
| Destructive tendency | 19 |
| Withdrawn, depressed | 31 |
| Dependence | 5 |
| Infantile sexuality | |
| | <hr/> 114 |

The evaluation of these psychodynamic tendencies does not afford so clear a clue to the personality structure on the basis of the statistical figures alone as in our other cases. Hers was a very complex psychosexual development, interrupted and protracted by several regressions.

We reported that her father, in lavishing his attention upon her in early childhood, in seducing her to a quasi adult companionship with him, compelled her to form strong emotional defenses against this relationship. Thus she repressed the heterosexual tendency which was directed toward the father. As a reaction to the regression, she identified herself with her infant brothers and wanted to remain dependent upon her mother. This passive dependent attitude caused a constant conflict with her deep-seated unconscious identification with her mother which manifested itself primarily in competition with the mother for her pregnancies and children.

The late menarche, the menstrual irregularities, her severe dysmenorrhea, might have been signs and symptoms of the slow development of the sexual apparatus. Perhaps we are not wrong in assuming that her inhibited sexual development was the result of repression of her heterosexual tendencies. That her dysmenorrhea and enuresis ceased after she entered sexual relations with a man, and that her hormone function improved during the psychoanalytic treatment in reaction to actual sexual stimulation, supports this assumption. The heterosexual, homosexual, exhibitionistic tendencies were evaluated as manifestations of genital organization of the sexual drive; the identification with her brothers and hostility were considered as a manifestation of a lesser integration of the sexual drive. Thus the relation between genital and pregenital expression of sexual drive is 85:89. Narcissism, mother-conflict, relation to the child, and nursing tendency represent the genital level of progesterone correlation; the anal and urinary retentive tendencies, oral and dependent tendencies (homosexuality in this group represents a variation of the same) are the pregenital manifestations of the progesterone correlation. Thus the relation between genital and pregenital tendencies is 125:68. Of the low hormone level correlations, 46 reflect the previously high progesterone production, while 68 represent nonlibidinous and pregenital tendencies.

The evaluation shows that the integration of the sexual drive in correlation to progesterone production was of a higher degree than in correlation to estrogen production. This corroborates the conclusions derived through evaluation of her developmental history: that the repression of her heterosexual tendencies acted as an inhibiting factor in her development; that by relinquishing heterosexual gratification the need to reconcile with the mother and with womanhood on the basis of motherliness was intensified. The conflict was reflected in the hormone cycles. In this patient, as in Cases I and VII, frustration and suppression of heterosexual tendencies affected those psychodynamic conflicts which were repeated in correlation to progesterone

production—the problems of adaptation to the propagative role of womanhood.

In Tables 28–32 we present five cycles of this patient which suffice to demonstrate the problems discussed.

Case IX

This patient was a married woman of thirty at the time of her analysis. The clinical diagnosis was severe phobic state in a schizoid personality. She presented symptoms of dysmenorrhea, dyspareunia, frigidity, and spastic colon.

Main Symptoms: When thirteen years of age, a few weeks before she was to be graduated from the elementary grade school, the patient developed an acute fear of going outside alone. She was sitting in the schoolroom when she suddenly developed a peculiar and terrifying sensation in her lower abdomen—a feeling which she attributed to some cheese she had eaten for lunch. At the height of the anxiety, she was excused from school and ran home in terror. She felt as if she were about to die. During the brief remaining period of the school year the patient had to be accompanied to school by her sister, and from that time until the present she has been constantly beset by phobias of all types, such as the fear of screaming, fainting, and of defeating certain foods, as well as by the basic fear of being alone. Definite obsessive and compulsive manifestations have also been present. The patient suffered from nocturnal enuresis until about the time of the menarche, which occurred at or about the period when her symptoms developed.

By the time she came for psychoanalysis at thirty, the patient had been married twice, in spite of her phobia. When she was twenty-two she was still a clinging, dependent girl, constantly demanding care and attention, seeming to prefer this secondary gain to a more normal existence. A dream which occurred at the height of the analysis depicts the kernel of the patient's neurosis as it is reflected in her symptoms and their secondary gain.

A group of school children are standing in line before entering the school building. The patient, while in the line, sees a boy and girl off to the side. Suddenly the boy plunges a knife into the girl's back and she falls to the ground. In great panic the patient runs home and finds that she has been transformed into a baby, lying quietly in a small bed, with two elderly women watching over her from the bedside.

Medical History: At the beginning of treatment the patient appeared to be in good physical condition. Physically she was always a

healthy individual; she had been treated by physicians and by Christian Scientists for her various psychosomatic and psychoneurotic symptoms. For dyspareunia she was treated with dilatation of the vagina. Gynecological examination showed moderate hypoplasia of external and internal genitalia; uterus sharply anteflexed, firm, freely movable, about two thirds of normal size. Ovaries not palpable.

Menstrual History: The onset of menstruation at the age of thirteen is associated with memories of severe pain and suffering, often combined with nausea, vomiting, and a complete cessation of all activity. The patient always prepared herself for catamenia by wearing napkins for from a day to a week in advance of her period, took analgesics repeatedly during the first two days, and frequently retired to bed with hot water bottles applied to her abdomen. Her periods have been fairly regular, of four to five days' duration, and are characterized by a moderate flow.

Family History: The patient's father is remembered by her as a strict, selfish, miserly man. He suffered from a phobia similar to hers, and so was obliged to remain at home, to care for the children, and to attend to household duties much of the time. He had been married twice; his first wife had died, leaving four children, the eldest of whom, a son, committed suicide about four years before the patient came to analysis. The father died of an extensive abdominal and lingual carcinoma shortly after this son's suicide. The mother of the patient was the second wife, who, according to the patient, always led a suffering existence, receiving kindly treatment from the father only when he desired sexual gratification. For many years the mother suffered from so-called fainting spells and was exceedingly hypochondriacal. She died in a state hospital during the patient's analysis. The patient has four half-siblings and she is the fifth child of her mother's ten children. The half-siblings played little or no active role in the patient's life except for the eldest, who committed suicide. He had evidently presented a more kindly and more understanding attitude toward her and her phobic symptoms than had the other members of her family. The eldest living sibling is an unmarried brother of thirty-eight. There are, in addition, first, a sister of thirty-two, and then three brothers whose ages range down to twenty-three. Between the eldest brother and sister came two brothers who were killed during the patient's adolescence; both brothers played an important role in her earlier life. Finally, there was one brother who died as an infant. Of her mother's own children, only two were girls.

Developmental History: Little is known of the patient's earliest history. She belonged to an orthodox Jewish family whose customs she followed until she began to study Christian Science. They lived

in a very poor neighborhood. Most of the early history of the patient's life must be reconstructed from her later neurotic reactions. The patient does not remember any pleasant relationship with her mother. One may assume that the exhausted mother, pregnant or nursing most of the time, had little time to care for this baby or for the others. Which of her mother's five pregnancies made the most important impression on the patient, we do not know. Dreams, however, show that the patient was disturbed early and repeatedly by her mother's pregnancies. Her emotional reaction seems to have been split; while she actually feared pregnancy, nevertheless she was competitive with her mother, as many dreams during the analysis indicate. In these dreams she was often fascinated by pregnancy and was usually competing for the children with an underlying feeling of envy. This envy was concentrated upon the idea that the mother had all the boys and could play with them.

One of the patient's earliest neurotic symptoms was enuresis. The patient had never been completely trained to control her bladder; her enuresis lasted until menarche. The psychoanalytic material disclosed that an identification with the baby brothers was the chief motive of the symptoms. It also suggested an identification with the mother, in that her dreams of continuous urinating seemed to represent the phenomena of giving birth. An early relationship to the father can perhaps be deduced from her later history. At adolescence the patient lived with her father in a close relationship somewhat analogous to an involved and unhappy marital state. One might even be inclined to assume that a type of *folie à deux* was acted out between father and daughter. The patient always talks about her father with hatred and fear and about her mother with contempt and sympathy.

The patient's childhood was characterized chiefly by constant exposure to sexual stimulation. She had been confronted with the problems of sex by early observations of her father and mother and by sexual play with her brothers. This sensitive child could not manage the stimulation which she experienced. Sexuality was uncanny, dangerous, and "crazy" to her; yet she could not avoid it. Repression was impossible in an environment such as hers. Her only way to get rid of the excitation was to be active in sexual play with her brothers and to be watchful lest nothing unexpected happen to her. She felt guilty and blamed her brothers for her constant preoccupation and need for sexual activity. Thus she developed a sexual activity which appeared to be a masculine identification with the brothers but was actually a form of defense against her passivity.

Most of the patient's earlier memories are centered about the brothers. Her early traumatic sexual experiences with them occurred

in her fourth and fifth years, that is, in her oedipus phase. But the excitation did not cease; the patient did not have a latency period. She was always aware of her sexuality, which she could not repress even though she feared it. One of her earliest memories, described in terms that mark it a typical screen memory, is related to an experience with the brother two years younger. Both children had been in the house, she believes, playing at a game of jumping from a large bundle of clothing. She recalls having experienced, perhaps for the first time, that peculiar sinking, sickening abdominal sensation. She claims that they fainted and that both she and her brother were found lying there together after they had fainted. She is not certain but she believes that she was four or five years old at the time.

When she was seven or eight she began to masturbate, placing a pillow between her legs and lying over it. This practice she continued off and on until she was about twelve. Occasionally she rubbed herself against her sister's or cousin's foot when she slept with them. These masturbatory experiences were associated with great shame and guilt; the patient was able to confess them only after she had been in analysis more than six months, though her dreams abounded with material to indicate that she was always aware of concealing this information. Frequently, during those years when she masturbated, she would run to the bathroom to see whether she had scratched or otherwise injured herself, and she experienced considerable anxiety on those occasions. The analytic material later showed that catamenia symbolized for her the proof that she had damaged herself.

When she was ten or eleven years old, a series of traumatic experiences occurred. One night she awoke and observed her parents indulging in sexual relations, the mother underneath and lying on her abdomen. The patient recalls the peculiar combination of thrill and fright which was associated with her observations of what went on in the dimly lit room. This scene was repeated during the psychoanalytic treatment always as a proof that "mother is crazy, that sexuality is crazy." At about the same time she was enticed into her brother's bedroom and, according to her claims, was sexually attacked. For years she lived under the ever-present conviction that she would some day bear his baby. She also feared that she was no longer a virgin, though her subsequent accounts indicate that she had not been deflorated at the time. In the analysis, this story of her childhood pregnancy fear, dreams and fantasies that she was pregnant by her brother or was taking care of the child she had borne him, often appeared in correlation with the progesterone phase of the cycle. It was at about this same time that the patient observed a scene in the home which she remembered for many years. She came upon her mother

lying on the bed, while one of the patient's younger brothers lay on the floor beside the bed holding his mother's hand. The patient was filled with conflicting emotions and always attached definite incestuous significance to what she had seen, feeling openly jealous of her mother at the time. Following the "attack" experience she was often preoccupied with fantasies of a similar attack on the part of her other brothers, and she sometimes deliberately exhibited herself in an attempt to attract their attention. On one occasion she had been asleep on a couch and roused herself in time to prevent one of her younger brothers from approaching her. She often mentioned that she could trust only one of her brothers alone with her. During this period the patient found herself obsessed with an insatiable curiosity regarding a baby boy for whom she was caring at the time. She was preoccupied with his penis, and made fantasies of playing with it and of having sexual contacts with the infant. This was typical of recurring psychological material in the analysis, correlated with increased sexual desire in the preovulative phase of the cycle—the fear that some woman, a Negress or a crazy woman, would seduce a little boy to sexual play. The Negress and the crazy woman were equated with her mother and herself.

Adolescence: The patient's most serious difficulties developed in adolescence. She was fourteen and in her last half year at grade school she developed the first severe anxiety symptoms, followed later by a defensive phobic state. She had many fantasies about various boys in her neighborhood and felt that she was in love with one of them, though he did not reciprocate. She believed herself to be much admired by a boy for whom she had no admiration. She experienced shame and embarrassment because of her enuresis, which her brothers occasionally mentioned in public in order to taunt her. She was also unhappy because of acne.

During her last year in grammar school, several important things happened but the patient cannot recall their exact sequence. Her enuresis cleared up, menstruation began, her father developed carcinoma of the tongue, and her mother experienced a severe menorrhagia which was apparently associated with an abortion. While the patient feels that most of these events followed the onset of the anxiety and phobic state, she describes her first phobic symptoms in a way that is strikingly similar to her account of her later menstrual periods which she dramatized in a highly masochistic manner. According to her account, when she experienced the first anxiety attack she ran home from school, tore her dress from her back, screaming all the while, and was put to bed by her father who administered pills and a hot-water bag. Then she felt nauseated and vomited; she was

seen by a physician and was confined to her bed for about ten days. The anxiety, which she describes as a queer frightening abdominal sensation, persisted for days. Her father nursed her through this first anxiety attack. For many years of her adolescence she spent every day with him in his little store. There the father and daughter watched each other and helped to dispel each other's anxiety; each avoided being left alone. She worked hard for her father in the store and brooded over her unusual existence, which was as suffering as her mother's. She could thus manage never to be alone, either outside or inside the house. This superficial protection, however, did not help the emotional tension caused by her conflict. She wanted to avoid being like her mother, yet she lived just the life of her mother, at the same time separating her father from her mother. She developed various obsessions which were accompanied by great anxiety. One obsession was directly connected with the father; she often felt like grasping his penis when she was alone with him. At the same time she had a pronounced fear of fainting, and frequently felt that something might happen to her should she faint in the bathroom. This phobia was followed by another, a fear of eating certain foods, particularly fish. This phobia became more and more elaborated during the years. She was afraid of being poisoned by certain foods, by cheese—sold in her father's store—or by canned food or fish. The analysis showed that the food phobia represented a defense against her oral impregnation fantasies, sometimes related to the father but more often to the brothers.

Other obsessions expressed the patient's extreme ambivalence toward her mother. One of the mother's eyes had been injured. The patient often found herself filled with an irresistible desire to bite this eye. The psychoanalytic material gives evidence that this compulsive idea originated in her aggressive impulse toward the content of her mother's body, toward her pregnancies. Even without reconstruction we found ample evidence that her leading symptoms were concentrated upon the mother's sexuality and that they developed as a defense against her own sexuality. The several parturitions, the profuse bleeding of the mother, had shown her that to be like the mother was dangerous and that this danger was connected with sexual activity. She would run into the bathroom after she masturbated to see if she was bleeding. When the menstrual flow came, she regarded it not only as punishment for sexual guilt, but she also identified the process with parturition. Each menstruation appeared to be a great and dangerous event; she prepared herself by wearing napkins several days in advance, taking medicine, and demanding much attention. Her anxiety increased until the onset of the flow and was relieved

after the flow was established. She felt that she had survived all the dangers and pains she had feared. The psychoanalytic material correlated with the late premenstrual phase was dominated by the fear that she would scream and go crazy. She felt that screaming, fainting, bleeding, and coitus (especially *a tergo*) were the equivalents of being the crazy, endangered, suffering person exemplified by her mother. She defended herself against the deep unconscious identification with her mother by fortifying herself against heterosexuality and pregnancy.

In spite of this defense, she married early. She developed into a good-looking girl, to whom men were attracted. The first marriage was in order to exchange an unpleasant home environment for a better one, to have a husband who would not leave her alone and who would protect her from anxiety as her father had. This marriage did not last long; she was divorced and married again shortly. The second husband also was made to play the role of the father. He acquiesced to her demand of not being left alone; he gave in to her sexual inhibitions, thus sustaining a pregenital form of sexual activity. From time to time his resentment toward her burst out and he treated her brutally. This Strindbergian marriage satisfied many of her pathological needs. In it she repeated the infantile sexual play which she had once experienced with her brother; thus she was safe from pregnancy. In this way she emasculated her husband and yet experienced his cruelty. She never had real sexual gratification but was always in a state of excitation which could be handled only by careful management of her phobias and obsessions. She could not give up a bit of this vicious circle because there was nothing which she dreaded more than to be left alone. The neurotic, clinging dependence on her husband gave her a protection such as she had had from her mother in infancy and before she developed the idea that her mother was a "bad and crazy" woman.

The sexual development of this patient indicates that an early and almost constant sexual stimulation induced a state of premature sexual excitation accompanied by anxiety. She probably arrived at the emotional conflict of the oedipus situation prematurely. The result of this conflict was an identification with her mother which—though this is the usual precondition of female development—did not result in normal development, since repression of the oedipus conflict failed and was not followed by a latency period. Sexual experiences supported her fear that she might become like her mother; this fear increased her desire to be a dependent child, unaware of sexuality. Though the genital conflict was repeated during adolescence, the reaction at this time was only partially regressive. The central con-

TABLE 13

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|-----------------------|---------------|---------------------------|---|----------------------------|------------------------------|----------------------------|-------------------------------|--------|---------------------|--|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L. | Increasing Estrogen | |
| II | | | 1 | 2, 3, 4, 5 6, 7, 8 | 8-9 | | 9, 10 11, 12 13 | 14, 15, 16 | 17 | | 18 | 20 | 21 | |
| III | | 1 | 2, 3, 4 | 5, 6 | * | | 7, 8 | 9, 10, 11 12 | 14, 15 | 16 | 17, 18 | | | |
| IV | | 2 | 3 | 4, 5, 7, 8 | | | 9, 10 | 11, 12 13 | 14, 15 16 21 23 | 19 20 | 17, 18 | 24 | | |
| V | | 1 | 2, 3, 4, 5 | 6, 7, 8 | * | | 10, 11 12 | 13, 14 15, 16 17 | 18, 19 | 20, 21 | | | | |
| VI | | 1, 2 | | 3, 4, 5 | * | | 7, 8, 9 | 10, 11, 12, 13 14 | 15 | 16, 17, 18 | | | | |
| VII | 1 | 2 | 3 | 4 | 5 6 | | 7 | 8, 9, 10 | 11, 12 15, 17 | | 18 | 19 | | |
| VIII | | | 1, 2 | 4, 5 | | 6, 7, 8 9, 10 11 | | 12, 13 14 | 15, 16 17 | | 19, 20 21 | | | |
| IX | | 1 | 2, 3, 4 5 | 7, 8, 9 | * | | 10, 11 | | 14, 15 16 | 18 | | 19 | | |
| X | 6 | 1, 2, 3 | 4, 5 7 | 8, 9, 10 | 10 | | 11, 12 13, 14 15 | | 16 | 17, 18 19, 20 21, 22 | | 23 | | |
| XI | 2 | 1 | 3, 4, 5 6, 7, 8 | 9 | 9 | | 10, 11 | 12, 13 14, 15 16, 17 | 18, 19 | 20 | | 21 | | |
| XII | 1 | 2 | 3 | 4, 5 | 6, 7 | | 8, 9, 10, 11 14 | 15, 16 | 17 | | 18, 19 20, 21 22, 23 | | | |
| XIII | | | 1, 2, 3 4, 5 | 6, 7 | 8 | | 9 | 10, 11 12, 13 14 | 17 18 | 15, 16 | | 19 | | |
| XIV† | | 1, 2 | 3, 4, 5 | 6 | 6 | | 7, 8, 9 10, 11 12, 13 14, 15 16, 17 18, 19 20, 21 22 | 23 | | 24 | | 25 | | |
| XV | 1 | | 2, 3, 4 | 5, 6, 7, 8 9 | 9 | | 10, 11 12 | 13, 14, 15 | 16 18 | 17 20, 21, 22 | 19 | | | |
| XVI† | 1, 2 7 | 3, 4, 5 | 6 | 8, 9 | | 10, 11 12 | 15 18, 19 | 13, 14 16 | 17 20, 21 22 | | 23, 24 | 26 | | |
| XVII† | 1 | 2, 3 | 4, 5, 6 7 | 8, 9 | 10 | | 11, 12 13, 15 16 | 17, 18 | 19 22 | 20 21 | | 26 | | |

NOTE: Where days are omitted

Note: Where days are omitted comparative material was not available.
 * Comparative material was lacking for the ovulatory period, thus ovulation could not be stated.
 † Received Antuitrin S. injections.

CASE IX (Continued)

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | | MENSTRUAL PHASE | |
|--------------------|----------------------------------|--------------------|---------------------|--------------------|---------------|---------------------------|--------------------------------------|-------------------------|------------------------------|---------------------------|---------------------|--|-----------------|---------------------|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | | L.H.L. | Increasing Estrogen |
| XVIII ^f | 2 | | 3, 4, 5 6 | 7 | * | | 9, 10, 11, 12 13, 14 18, 19 | 1 25, 16 20 | 17 | 21, 23 24, 25 26 | | | 27 | |
| XIX ^f | 1 | | 2, 3 21 | 4 22 | * | 22 | 6, 7, 8 9 23 | 10, 11, 12, 13 | 15 16 | 14 19, 20 | 17, 18 21 | | 26 27 | 24, 25 |
| XX | | 1 | 2 | 3, 4, 5, 6 | 7 | | 8, 9 10 | 11, 12 13 14 | 15, 16 20 | 17, 19 | | | 22 | |
| XXI | 1 | 2, 3, 4 5 | 6, 7 | 8, 9 | 10 | | 11 | 12, 13 14, 15 | 16 19 | 17, 18 20, 21 | | | 22 | |
| XXII | 1, 2, 3 | | 4, 5 11 | 6 12 | | 13 | 7, 8 | 14 | 9, 10 | 15, 16 17, 18 19 | 11 | | | |

flict remained the same—a defense against unconscious mother identification, against heterosexual desire, and against the dangerous wish for pregnancy. The chief psychodynamic conflict remained on a genital level in spite of the fact that the patient maintained her dependence. Her ego could not mature and she could thus never accept sexuality.

We studied 21 cycles. Table 13 shows the variations of the hormonal cycles. Of the 21 cycles, ovulation was diagnosed in 11; luteinization of the unruptured follicle was diagnosed in 4, and in 6 other cycles comparative material was not available for the crucial days. The cycles were 23–29 days long. At first glance, the distribution of ovulative days seems regular; there are a few cycles in which the estrogen phase is relatively short and ovulation occurs early in the cycle.

The progesterone phase also shows considerable variation in duration. There are cycles, like VII and XIII, in which high progesterone production persists for only one day, while in others it lasts for five days. During the treatment, this patient was given Antuitrin S; the result of this medication was to lengthen the progesterone phase—in cycle XV, for example, to 16 days—and to change the premenstrual phase accordingly. Incipient estrogen production in the premenstrual phase was characteristically persistent and relatively long; in 10 of the 21 cycles, estrogen production becomes very high during the last

three days preceding the flow; it thus resembled a preovulative state. Subjectively, therefore, she might have been expected to describe her sexual cycle as one in which the peak of sexual excitement occurred premenstrually. Instead, however, she showed an increase of anxiety, sometimes amounting to paroxysm. The curve of her emotional cycle is characterized by a steady undercurrent of heterosexual tendency manifested as anxiety. Her symptoms increase twice during the cycle: first, in the preovulative phase, when she reacts to incipient progesterone production with nausea, with fear of being poisoned, and when she develops colitis—*Mittelschmerz*; and second, in the premenstrual phase, when she struggles against the sexual tendency and against the fear of menstruation. This anxiety is often accompanied by intestinal and uterine cramps. Once the flow begins, she feels relieved despite her dysmenorrhea.

In 21 cycles there were 264 comparative data; there were 12 partial and 1 total discrepancies. There were 183 estrogen and 139 progesterone diagnoses; of these, 91 are counted in both columns because on 91 days both estrogen and progesterone were predicted. There were only 33 days of low hormone level. This relatively small number of low hormone level predictions indicates that there was notable hormone production during the premenstrual phases. The fact that this patient did not prepare smears during the menstrual flow also helps to account for the small number of low hormone level predictions. The predictions were made by evaluation of the following psychodynamic tendencies:

Estrogen Correlations:

| | |
|--------------------------------------|-------|
| Heterosexual tendency and anxiety | 177 |
| Heterosexual tendency and aggression | 14 |
| Masculine identification | 39 |
| Infantile sexual tendency | 57 |
| Exhibitionistic tendency | 11 |
| | <hr/> |
| | 298 |

Progesterone Correlations:

| | |
|-------------------------|------------|
| Homosexual tendency | 16 |
| Narcissism | 39 |
| Mother-conflict | 51 |
| Pregnancy tendency | 44 |
| Nursing tendency | 13 57 |
| | <hr/> |
| Oral receptive tendency | 43 |
| Dependence | 13 56 |
| | <hr/> |
| | 219 |

Low Hormone Level Correlations:

| | |
|--|-------|
| Dependence | 24 |
| Depressed, withdrawn | 10 |
| Anal and urethral eliminative tendency | 40 |
| Genital eliminative tendency | 38 |
| Self-destructive tendency | 6 |
| | <hr/> |
| | 118 |

The psychodynamic tendencies during the estrogen phase are similar to those of Case I. The heterosexual tendency in both patients is object-directed, but in this patient the emotional accompaniment is not pleasure but intense anxiety. Because of her great passivity and fear, aggression as a defense rarely occurred in this patient. The psychodynamic tendencies of the progesterone phase are interesting. The tendency toward active motherliness, pregnancy, and nursing is represented by the same number, with one exception, as the infantile receptive and dependent tendency, the wish to remain a child. (Compare with Cases XI, XII, and XIII.) The same relation of mature to immature tendencies is also shown in her low hormone level correlations: the genital eliminative tendency is represented almost as many times as the pregenital eliminative tendency (38-40). The frequency of genital eliminative tendency indicates the high progesterone production on the one hand and the genital character of her fantasies on the other.

SUMMARY. While from the psychiatric viewpoint the patient is very sick, her hormone cycles are almost normal. The symptoms of this patient were more severe and they compelled more continuous suffering than those of patients VII, VIII, or XII. Her personality seems to be more infantile than that of the other cases. Her gonadal cycles are more nearly normal than are the cycles of Cases VII, VIII, or XII. In subsequent cases showing insufficient ovarian function we shall describe developmental disturbances which may account for regression to infantile phases of sexual development. The sexual development of Case IX is closer to that of Case I than to the three other cases. The integration of the sexual drive of this patient remained on a genital level and her gonadal cycle developed normally. The ego, however, did not grow up to accept adult sexuality but remained on the level of an anxious and dependent child.⁸ This infantile ego had to deal with periodically recurring heterosexual desire and with a physiological need for impregnation which com-

⁸ In this connection we note that her psychoanalytic material repeated the conflicts in such a monotonous fashion that one had the impression of a subnormal mentality. Her I.Q., however, was 124.

pelled her to produce such intense phobic defenses against these tendencies that she was often almost incapacitated and sometimes appeared to be psychotic.

In Tables 33-35 we present three cycles of this patient which suffice to demonstrate the problems discussed.

Case XI

This patient, an unmarried woman of twenty-five, was accepted for psychoanalysis so that we might study the psychodynamic correlations with urticaria, which at that time was generalized. The patient also suffered from migraine and dysmenorrhea; she had an inclination to polyphagia and was distressed by anxieties, nightmares, and feelings of incompetence. During the course of psychoanalytic treatment she was studied for a short time by the vaginal smear method.⁹ From the psychoanalytic record, a diagnosis of sexual infantilism was made; this was later confirmed by gynecological examination. The study of the sexual cycles threw some light upon the relation between urticaria and the hormone state.

Medical History: The patient was a healthy child; she had only the usual children's diseases. At about ten years she fell and injured her left leg. For this injury she had no medical attention and the wound became infected, causing her trouble for several months. A year later she made a serious attempt at suicide. At fourteen she fell downstairs to the cellar, injured herself seriously, and probably suffered nervous shock; she was in bed for two months. Besides these rather severe injuries, she experienced other minor accidents.

In 1932 she developed inflammatory rheumatism, as diagnosed by her physician. This illness followed exposure; she had been walking around in snow and slush without galoshes, looking for work. When she was about sixteen her headaches began. These headaches, migrainous in character, became worse and worse until they would last for several days or even a week. She had no explanation for the headaches; any kind of excitement, worry, or depression could bring them on, she said. Her first severe generalized urticaria occurred in December, 1936. She believes that the severe urticaria attacks became worse about two weeks before and during the menstrual period.

Menstrual History: The first menstrual flow occurred when she was approximately fourteen, but it did not recur for about a year. After she was fifteen, menstruation was established with some regularity, occurring every five or six weeks. The flow was profuse and

⁹ The psychodynamic correlations to the urticaria were published by Dr. Leon J. Saul (1941).

lasted ten to twelve days. She does not recall any great pain or cramps during the first years. She began to suffer from dysmenorrhea when she was twenty-one, four years before psychoanalytic treatment began. She usually has to stay in bed two or three days, sometimes longer, because of severe cramps and pains in the rectum. These cramps generally start a day or two after the onset of the flow and reach their peak on the third day. Before menstruation she develops a headache; she is dizzy and nauseated and feels depressed, nervous, and oversensitive for a week before.

Pertinent Medical Data: The patient is somewhat obese, weighs 178 pounds, is 5 feet 5½ inches in height. Fat distribution is even. Skin fair and smooth. Normal feminine distribution of hair, somewhat scanty about the genitals. "Labia majora and minora very small. Clitoris normal in size. Mucous membrane externally normal, vagina somewhat pale, no discharge. Cervix very small and very hard; pale, pin-point external os, normal position. Flat surface of cervix almost the size of a dime. Uterus very small, sharply ante-flexed and hard. Right tube and ovary not palpable. The findings give the impression of definite underdevelopment." An extensive allergic investigation for urticaria was essentially negative.

Family History: The patient was the elder of two children. The parents had married when they were both under twenty. When the patient was a year and a half old, a sister was born. When she was two, her mother died. It was rumored that her mother's death was due to the violence of the father. Shortly afterward he married a divorcee and placed the children in different orphanages, but took them back after a year to live with their stepmother. The patient was well treated by the stepmother until she was six, at which time the stepmother began to accuse her of things she had not done and would make the father punish her. The father treated the patient with extreme brutality. He was always engaged in illicit enterprises of some kind and had served several terms in prison.

Developmental History: About the early development of the patient we know very little. Psychoanalysis did not uncover her early reaction to the birth of the sister; the traumatic death of her mother seems to have been blotted out. She was greatly attached to her father and recalls removal to the orphanage as a traumatic event. Her memories of this time show that she felt lost and afraid among the many children; she became enuretic while there. Her rationalization for the enuresis was that she was afraid to get up in the general sleeping room lest she disturb the other children. This symptom seems to have been a regression, a reaction to the separation from home. The patient remembers the year after her return home as a

happy period; at first she was treated well by the stepmother. The cruel treatment began later when she was about six. She wanted the father's attention but secured it only in the form of cruelty. The younger sister was treated with similar brutality. As soon as the children were able they were made to do the cleaning work in the father's saloon and brothel. They knew almost no pleasure—only abuse, drudgery, and the ostracism of the neighborhood. They longed for a good mother and a good father. Although the patient suffered greatly from her father's cruelty, she identified herself with him; at the same time she was ashamed of him because of his shady enterprises. In spite of the fact that they were exposed to the violence and promiscuous sexuality of their environment, the patient and her sister lived in a sexually prohibitive environment. They were forbidden all companionship with boys. The parents, so free in their own doings, accused the children of sexual misbehavior and threatened to shoot them and any boys with whom they went. With this as the setting for the preadolescent development of the patient, we are not surprised to find that her psychosexual development was deeply disturbed.

Her emotional life was dominated by an unconscious masochistic fixation to the father and by conscious hatred for the pathological stepmother who was unable to give any gratification to a child longing for love. Ambivalence characterized her relationship to her sister, an attractive child, slender and good-looking, and the favorite of the stepmother. Though the patient loved her sister and wanted to be like her, she was also envious of her. In childhood and preadolescence she often attacked her sister, and then had to suffer from guilt feelings and increased anxiety.

The patient struggled to rise above her environment, to free herself from the suffocating confines of her conflicts. It is safe to assume that libidinous desire, stirred up by her daily experiences, was in conflict with her ambition to be superior to her surroundings. Her sexual desires became blocked not only because of the threats of the parents but also by her own need to be better than her environment. The result was a suppression of her libidinous demands which led to regression, evidenced by her great dependence and longing for a good mother. This emotional condition activated her need for food, for sweets, for comforting oral gratifications but even this gratification was thwarted in her frustrating home. When she was eleven she made three suicidal attempts within a brief time. The attempts to kill herself represent the peak of her emotional impasse. There was no gratification for her dependent needs, for her sexuality, or for her hostilities. She could not rid herself of guilt and anxiety. The first time, she drank hydrogen peroxide; the second, she tried taking pills

—both times showing the need to combine self-destruction with oral gratification. The third attempt was a stronger expression of her thwarted aggression: she cut her wrist so badly that seven stitches had to be taken. At the age of twelve, shortly after she recovered from these efforts to kill herself, she succeeded in liberating herself from home. She obtained a job in a near-by city. With the first money she earned she bought herself ice cream and consumed all she could possibly eat. Gratification of her long-thwarted need for sweets was her first gesture of independence. Though this can be regarded as normal behavior in a twelve-year-old child, in this case it is more significant in that it marked the state of her psychosexual development for a long time to come.

Even though her instinctual needs were on the level of a child, her ambition was that of an active, striving young adult. Through hard work she brought the sister to live with her and helped her through school. She daydreamed of fairy princes, of love, of dancing, of everything which seemed unattainable to her, but at the same time she strove hard to improve herself. She attended night school and joined dramatic and discussion groups. Her days were filled with struggle for a better existence. At night she dreamed of being back in her poverty-stricken home where she would be attacked by a cruel man who clearly represented the father. Her anxiety was a defense against the longing for this sadistic father—the desire for him was just as intense as the longing for her dead mother—but no matter how vigorously she struggled to free herself from him, emotionally she remained dependent upon him. She hated, feared, loved, and pitied him; she even gave him some of the money she earned. She also helped her sister until the sister married and left her alone. About this time she began to go out with a young man of her own age and became dependent on him for male companionship. This young man did not make sexual advances; he was passive and considerate. He promised to marry her but avoided this step by not getting work which would permit him to marry. In this way he did not endanger her by stimulating her sexuality but protected her from the danger. This relationship continued until the psychoanalytic treatment changed her attitude toward sexuality.

Summary of Developmental History: We have described the four transverse sections of the patient's development which appear in tabular form below.

In reconstructing the main psychodynamic motives of sexual inhibition in this case, we must first consider the role played by the father. Disappointed by the father's second marriage and saddened by the cruel attitude of the stepmother, the patient's admiration for

| DEVELOP- MENTAL PHASE | TRAUMATIC EXPERIENCE | REACTION: REGRESSION TO | SYMPTOMS |
|----------------------------------|--|--|--|
| I Age, 2 | Mother's death | Intensification of relation- ship to father | No symptoms recalled |
| II Age, 4 | Separation from father (a) by father's marriage (b) by placement in or- phanage | Fixation to father. Regres- sion to urinary gratifica- tion | Enuresis. Longing for home. Dependence |
| III Age, 6-12 | Brutal treatment by father and by stepmother. Frustr- ation through physical and mental cruelty | Regression to infantile de- pendence. Masochistic fix- ation to father. Narcissistic self-defense | Longing for dead mother. Increased oral demands. Masochistic fixation and inhibition of sexual devel- opment. Suicidal attempts |
| IV Age, 12 to present time | | Remained the same | Inhibited sexual develop- ment. Dysmenorrhea. Longing for dead mother. Dependence. Conflict be- tween ego striving and 1) dependence and 2) maso- chistic fixation to father |

her father turned into hatred although his brutality stirred up and satisfied her unconscious masochistic needs. Actual physical suffering as well as the mental anguish of anxiety and guilt-feelings made her seek gratification in longing for a good mother. The fairy godmother who recurs in her dreams probably represents the dead mother who, at least in fantasy, could protect her. The masochistic fixation to the father and the passive longing for the dead mother do not seem sufficient, however, to explain the developmental disturbance in this case. Another factor—specific for this case in comparison with the others—is the apparent failure of the patient to make a mother-identification. However, this factor is not independent of the other. Psychoanalysis has proved how important for the development of girls are the preoedipal relationship to the mother and an identification with her (Brunswick, 1940; Freud, 1924). In this patient, the course of the preoedipal relationship to the mother was interrupted by the mother's death; it was not reestablished by the stepmother. The patient was jealous of the stepmother because the father loved this new wife and she hated her because of her cruel treatment. In her dreams the stepmother was often represented as a bisexual creature, a "phallic mother," a sadistic masculine creature whom she dreaded. The desire to be different from this strange woman became stronger than the wish to be in her place. Thus the oedipal phase shows only a partial development. Her attitude toward motherhood remained on an infantile level. It was characterized by regressive wishes, by a longing for love and protection, which in reality was not satisfied and became attached to the dead mother. In this relationship, possible only in fantasy, she remained the little child.

We have studied the psychosexual development of this patient in order to learn how her inhibited psychosexual development was reflected in her gonad function. Table 14 shows the variations of the eight cycles studied. The figures represent the day of the cycle on which the particular hormone was diagnosed, as shown in the heading.

The table shows that the estrogen phase in the cycles is relatively short. The progesterone phase is longer, but only a few days are at a high progesterone level, while the longest part of 5 cycles was at low hormone level after a decline in progesterone production. The entire premenstrual phase was (except in Cycle VIII) recorded in the columns of low hormone level. During the last day or two preceding

TABLE 14

CASE XI

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|--------------------|---------------|---------------------------|----------------------------------|------------------------------|------------------------------|------------------------------|---------------------|------------------|---------------------|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L. | Increasing Estrogen |
| I | 2, 3 | 4, 5, 8 | | 9 | | 10 | 11, 12 | 13 | 17 | 15, 16 18, 19, 20, 21, 23 | 22 | 25, 26, 27, 28 | 24 |
| II | 2, 4 | 5 | 6, 7, 8 | 9, 10 | | | 12, 12 13, 14 15, 16 17 | 18, 19, 20 | 21 | | | 25 | 23, 24 |
| III | | 3 | 4, 5, 6 | 7, 8, 9 | 10 | | 11, 12 13, 14 | 15, 16 | | 17, 18, 19, 20, 21, 22, 23 | | | |
| IV | 2 | 3 | | 4, 5 | * | 10, 11 | 9 16 | 7, 8 12, 15 17, 18 | 21, 22 | 19 23 | | 24 | 29 |
| V | | 8 11 | 12 | 14 | | 15 | 16, 19 | 20, 21 | 22 | 23 | | | |
| VI | | | 1, 2 | 5 | * | | 8, 9, 10 | 12, 13 | 16 | 14, 15 23 | 19 22 | 23 | |
| VII | | | 1, 2 | 8 | 9 | | 10, 11 12, 13 | 14, 15 | 16 | 17 21 | 18, 19 | 22, 26 27, 28 | |
| VIII | 1, 4 | 6 | 7, 8, 9 | 11, 12, 14 | | | 15, 16 19 | 20 | 21, 25 27 29 | | 26 28 | | |

NOTE: Where days are omitted comparative material was not available.

* Comparative material was lacking for the ovulatory period, thus ovulation could not be stated.

the menstrual flow, there was some estrogen production which increased on the first and second menstrual days. Of the eight cycles, ovulation occurred in two and perhaps in two others. Four cycles were anovulative, in three of which luteinization of the unruptured follicle was diagnosed and no cyclical change was found in the other. In summary, the cycles of this patient showed a somewhat insufficient gonad function.

We had comparable complete data for 65 days. Estrogen was diagnosed for 30 days, progesterone for 28, and low hormone level for 19 days. Discounting the 12 days when both hormones were diagnosed, there were 46 days of moderate hormone production and 19 days of low hormone level. This low number of low hormone level data can be explained by the fact that the patient took smears irregularly and usually omitted them during her depressed emotional state—during the premenstrual and menstrual phase.

The predictions of the hormone phase were made by evaluation of the following psychodynamic tendencies.

Estrogen Correlations:

| | |
|--|-------|
| Heterosexual tendency, anxiety, aggression | 57 |
| Masculine identification | 12 |
| Infantile sex tendency | 13 |
| | <hr/> |
| | 82 |

Progesterone Correlations:

| | |
|-----------------------------------|-------|
| Homosexual tendency | 8 |
| Narcissism | 17 |
| Mother-conflict | 12 |
| Pregnancy tendency | 2 |
| Nursing, feeding tendencies | 0 |
| Receptive tendency and dependence | 23 |
| | <hr/> |
| | 62 |

Low Hormone Level Correlations:

| | |
|---------------------------------------|-------|
| Dependence | 19 |
| Depressed, withdrawn | 14 |
| Anal and urinary eliminative tendency | 2 |
| Genital expelling tendency | 0 |
| Destructive tendency | 4 |
| Pregenital sex tendency | 3 |
| | <hr/> |
| | 42 |

A study of the numerical summary of psychodynamic interpretations in correlation with estrogen shows that the emotional manifestations of heterosexual tendency in this case are similar to those of an

adolescent girl. During the analysis she did not have a single dream in which the desire to be sexually satisfied was the *manifest* content of the dream; there were always defenses, aggression, or anxiety. Nevertheless the distribution of the psychodynamic tendencies is similar to that of Case I.

The correlations with progesterone are different. As we have stated, the recorded psychoanalytic material was suggestive of sexual infantilism. If dreams express biological needs, the lack of a specific psychosexual trend in her dreams leads us to assume the absence of the particular biological need. In this patient's record we found only one pregnancy dream (Cycle I, May 5): The patient was talking with one of the girls, patient was pregnant, wanted to discuss it, and used the word, "obstician" or "obstetic"—she could not pronounce the word. Pregnancy tendency was found twice in dreams, but the tendency to nursing and motherliness was entirely absent. Most of the correlates of progesterone (23 of 28) were *dependence*. The psychological material correlated with the progesterone phase was the desire to be the child, to be dependent on her mother, or—even more regressive—to be dead like her mother. Other psychological material which recurred characteristically in correlation with progesterone was envy of other girls motivated unconsciously by her love and envy of her sister. Envy was often the expression of her homosexual fixation to the sister or of her own desire to be beautiful and attractive. It then corresponded with high progesterone function. At other times envy, criticism, or hostility overshadowed the unconscious love or became an expression of her own inferiority feelings, of her dissatisfaction with her own body. We then predicted decline of progesterone or low hormone level.

The conscious emotional manifestations were also cyclic in character. There were typical and marked differences between the emotional manifestations correlated with the estrogen of the preovulatory phase and of the premenstrual phase. In the former, heterosexual desire is expressed as the wish to be attractive, to exhibit herself; then when tension is increased she becomes angry, irritable, reproachful—chiefly against her fiancé. During the premenstrual phase the dreams expressing heterosexual tendency are masochistic; her emotional reaction is anxiety and her mood is tense and depressed. The patient herself recognized the fact, confirmed by the analyst, that she usually felt uncomfortable during the premenstrual phase. Her migrainous headaches, her oversensitive emotional reactions, her anxiety and depression were more likely to become severe during the premenstrual period than at any other time. After a period of such depression, the menstrual flow began with symptoms of dysmenorrhea which often

confined her to bed. Notwithstanding the anxiety, depression, and dysmenorrhea, the patient experiences heterosexual desire during the period of the flow. Thus she herself more readily recognizes and remembers her "increased" sexual desire during the premenstrual and menstrual phases than at other times during the cycle.

SUMMARY. In this case the relationship between the personality structure and the sexual cycle has been demonstrated. The developmental history revealed the fixation of her psychosexual development and the specific factors responsible for her sexual inhibitions, namely, her intense masochistic fixation to her father and her lack of identification with her mother. This gives her emotional manifestations the character of adolescence. Like her emotional cycle, her gonadal cycles also resemble the cycles of adolescence: estrogen production does not rise high, ovulation seldom occurs. There was, however, in seven of the eight cycles enough cyclical change to make the ovulative phase recognizable. The phase of progesterone production was very short; it declined quickly and gave place to a long low hormone period. During the period of low hormone the regression of psychodynamic tendencies to infantile forms could be observed. Her emotional and psychosomatic symptoms occurred mostly in correlation with this phase.

In Tables 35 and 36 we present two cycles of this patient which suffice to demonstrate the problems discussed.

Case XII

This patient, an unmarried woman of twenty-six, was accepted for psychoanalysis so that we might study the relationship of her emotional disturbance—chronic inhibition—with the sexual cycle. She suffered from a neurotic depression and from a disturbing shyness and uneasiness in social contacts, especially with men. She was also distressed by moderate obesity and by fluctuating impulses to overeat.

Medical History: The medical history of this patient is uneventful except for an acute nutritional disturbance in her second year. At this time she suffered so severely from malnutrition that she developed scurvy, but after recovering from this condition she was a healthy child.

Menstrual History: Menstruation began when she was almost thirteen. She had no complaints; the flow was moderately profuse, of five days duration; but the menstrual periods were irregular, 26 to 36 days, occasionally longer. During psychoanalytic treatment the intervals changed and the cycles became almost regularly of the 28-29 day type.

Pertinent Medical Data: The patient is slightly obese; fat distribution normal. Physical examination was entirely negative except for a slight genital hypoplasia. Blood pressure was 120/82, and basal metabolic rate varied between 0 and +7.

Family History: The patient was the youngest of four children. Her father was an ambitious professional man, so absorbed in his work that he paid little attention to his children. Her mother was a depressive personality, inhibited and withdrawn, who suffered from her femininity more than she enjoyed it. After her second pregnancy she seems to have undergone some personality change. She became moody, unaffectionate, and obese. The eldest child in the family, a brother ten years older than the patient, played an important role in the patient's emotional development. The other brother, two years her senior, was her playmate and her competitor. Her sister, seven years older, was a strong personality on whom the patient developed a great dependence. Another sister, born when the patient was four years old, died at birth.

Developmental History: The patient was at first a healthy baby. She was breast fed for five months and when weaned refused to take the bottle. She developed rather early. She began to walk and talk before she was a year old—before the nutritional disturbance began. In this illness she lost weight and became so emaciated that her family and the doctors thought she would not live. She lost her ability to walk and talk, which she had mastered so precociously, and was slow to learn again on recuperation. She had to be forced to take the first steps and did not walk well again until her third year. For a long time her speech was limited to "I want mama." We feel justified in assuming that the psychological effects of this early disease lasted much longer than the physical signs and symptoms warranted. These effects seem to be derived from two sets of important influences. One was the physical condition induced by the disease: the hunger, suffering, and weakness which endangered her life were like a chronic trauma which fundamentally disturbed her *Selbstgefühl*—her feeling of herself. As a reaction to this disturbance, she developed a feeling of insecurity, a mistrust of her own body; she became fearful and dependent. The other psychologically important influence was that during this severe illness she required an unusual amount of care and nursing, an exceptional situation in her matter-of-fact environment. Her mother, her aunts, her brothers and sister were all eager to help her and to take care of her. This dependence was prolonged because it was necessary that her diet and gastrointestinal function be watched carefully for a long time. This concentration of attention during this early period, from two to three, accounts for her later sense of frustra-

tion when she felt that her mother was not a "giving" person, that she did not cook well, and the like. This severe alimentary disease was probably responsible for her strong oral fixation and unusual dependence. It is interesting to note that the psychoanalytic material gives no evidence of difficulties in toilet training.

When she was four the patient experienced another severe trauma—her mother gave birth to a baby in the home. This event made a profound impression upon the patient. The mother's screaming, her confinement, and the death of the baby profoundly reinforced the severe anxieties engendered by the early illness. Early in the analysis she had dreams and fantasies showing a strong identification with the dead baby. She felt herself to be on a very insecure perch, just about to be pushed off. The reaction to this trauma was probably very complex. Its immediate effect was an enhanced dependence on the mother. She slept in the mother's room almost until she reached adolescence—she always slept in a prenatal position. But this closeness to the mother exposed her to other traumatic experiences. She remembers having witnessed the parents' coitus when she was a little child. Very early she seems to have acquired the impression that her mother merely endured sexuality, forced upon her by the father. Although we can not disentangle all her complex emotional reactions to these experiences, we know that one result was a sado-masochistic concept of sexuality. The psychoanalytic material, especially the dreams, often revealed a longing for the father's interest and attention and they repeatedly expressed resentment that "father went to mother in the kitchen." At the time of the actual experience, her reaction was an effort to repress all knowledge of sexuality, to turn away from the oedipus conflict. Her longing for attention from her father she transferred to her oldest brother. With the other brother she was always a competitor for the love of the mother, who frankly preferred this second son. She felt that if only she were a boy she could secure her mother's love. Another reason for her identification with this brother was the need for defense against her sexuality, which had been highly stimulated by the primal scene. She denied her passive desires toward her father and oldest brother and wished to be a boy. As a result of the repressed oedipus conflict, this passive and deeply dependent girl developed a masculine identification and penis envy; she became a tomboy. She did not enter the usual latency period; instead she developed a high degree of sexual curiosity which she tried to satisfy in various ways. These sexual activities, highly charged with emotional tension, were especially marked between her sixth and eighth years. Hostile competition with the brother, and guilt feelings because of her sexual interests, brought her into such

severe conflicts that she had to repress her sexual activities. Thus she was able to deny almost all knowledge of sexuality until late in adolescence. Though she remained conscious of the role of the penis, she was able to deny the existence of the vagina. It is as if her latency period had developed in the time of preadolescence. She did very good work at school and, since scholastic achievement was of great importance to her family, thereby obtained the recognition of both her father and her mother.

During this delayed latency period she seems to have been happy and emotionally quiet; she was not troubled by sexuality and she had a happy companionship with boy playmates. This changed suddenly with the menarche when she was thirteen. She accepted menstruation as a proof that she could not escape being a woman, and so gave up her companionship with boys and her boyish activities; she became shy and withdrawn. Her relationship to her mother also underwent a change; she became hostile toward her and quarrelsome, as if she held her mother responsible for her disappointment in being a girl. At the same time she began to indulge in overeating, just as her mother did. After the onset of menstruation, the normal production of sexual tendencies failed to occur. Even her sexual fantasies showed of regressive character, such as oral impregnation and umbilical and anal birth. Since she could no longer resort to masculine identification as a defense against her emotional conflict nor accept the feminine role, her psychosexual development was inhibited. She repeated the dependent phase of her childhood, this time leaning upon her sister, toward whom she became passive and submissive. Secure in this dependence on the sister, she could retain her hostile attitude toward the mother.

Following the severe emotional disturbances of adolescence, the patient regained a sort of emotional equilibrium. This she accomplished with the same adjustment she had made in preadolescence: she repressed her sexuality. She had little or no conscious need for it. She again began to concentrate her interest on intellectual achievement; she read extensively and became a good student. This may represent a successful identification with the older brother, the sister, and the father. It may also be interpreted as a result of her effort to gain recognition through her intellect, since she could not secure love and admiration as a woman. It was on this score that she later resented her father's appreciation of her masculine activities. He liked to play golf with her, was proud of her ability to drive a car well, and approved of her professional ambitions. Although on the surface this acceptance of her asexual personality was not congenial to her, it actually helped her to balance her emotional life. She was well thought

of and well liked, though she had few close contacts with either men or women. She finally became aware of her lack of sexual feelings and desires and realized that in this respect she was different from more normal women. Other girls in the family got married, and she wished vaguely to have the same experience. On several occasions she attempted a superficial relationship with men, but a vague anxiety and a lack of genuine need for such a relationship rapidly dissipated her efforts.

It was at this stage of her development that she began psychoanalysis. Before the treatment and during the early phases of the analysis, the patient very rarely had sexual fantasies or periods of sexual need. Such feelings as she had were usually directed toward some older, ambitious man who had little interest in her—an obvious father figure. She had cherished the fantasy that she could respond sexually only to a very aggressive man, one who would overpower her despite her passive resistance. During analysis it became clear that she had a terrifying concept of sexual intercourse.

Summary of Developmental History: We have described the four transverse sections of the patient's development, which appear in tabular form below.

| DEVELOPMENTAL PHASE | TRAUMATIC EXPERIENCE | REACTION REGRESSION TO: | SYMPTOMS |
|---------------------|---|---|---|
| I Age, 1-2 | Severe nutritional disease. | Total arrest of development. Regression to early infantile state. Oral fixation | Symptoms of the disease. Prolonged infancy |
| II Age, 4 | Birth of sibling. Observation of parental coitus. | Repression of sexual feelings | Increased dependence. Beginning of masculine identification with brother |
| III Age, 9 | Repression of sexual activities | Latency period | Acting out of masculine identification. Intellectual growth |
| IV Age, 13 | Onset of menstrual flow | Inhibition of sexuality. Regression to dependence and to oral fixation | Abandons boy playmates. Quarrelsome toward mother. Submissive to sister. Increasing shyness. Overeating |

The reaction of this patient to the onset of menstruation is very similar to that found in Case VII. In this case as in Case VII, we have evidence of strong oral fixation in early childhood. The mother of this patient, like the mother of Case VII, is a depressed, suffering person with whom identification was threatening. In both cases genital sexuality tended to recede rather than develop after the onset of the menstrual flow. In both cases a reinforcement of early oral tendencies, accompanied by introverted emotional reactions, charac-

TABLE 15

CASE XII

ASE XII

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | | MENSTRUAL PHASE | |
|-------|----------------------------------|--------------------|---------------------|--------------------|---------------|---------------------------|--------------------|-------------------------|------------------------------|------------------------------------|---------------------|----------------|---------------------|--|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip. Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L. | Increasing Estrogen | |
| I | | 1 | 2 | 3, 4, 5 | * | 7 | 6 | 8, 9, 10, 11 | 12, 13 | | | 15 | 14, 16, 17 | |
| II | | 1, 2, 4 | 3, 5, 7 | 8, 9 | 10 | | 11, 12 | 13, 14, 15, 16 | 18 | 17, 19, 20, 21, 22, 23, 24 | | 26, 27, 28 | 29 | |
| III | 2, 3, 4, 5, 9, 10 | 6, 7, 11 | 1, 8 | 12, 13 | | | | 14, 15 | 18, 24 | 16, 17, 19, 20, 21, 22, 23, 25, 26 | | | 27, 28, 29 | |
| IV | 1, 2, 3, 6, 7 | 4, 5, 8 | | 9 | | 10 | 11, 13, 15, 16 | 17, 18 | 22 | 10, 20, 21, 24, 25 | 23 | 26, 27, 28, 29 | | |
| V | 1, 2, 3, 4, 5, 6, 9, 10 | 7, | 11 | 8 | | 12 | 13 | 14, 15 | 19 | 16, 17, 18, 20, 21, 24, 25, 26 | | 27 | 28, 29, 30, 31 | |
| VI | 1, 2, 3, 4, 5 | | 6 | 7, 8 | | | 9, 10, 11 | 12, 13, 14 | 19 | 15, 16, 17, 18, 22 | 20, 21, 23, 24 | 27, 28 | 25, 26 | |
| VII | 1, 2, 3, 10, 11, 12, 13 | 4, 5, 6 | 7 | 8, 9, 14 | | | | 15, 16, 17, 20, 21, 22 | 24 | 18, 23 | 19 | | 25, 26 | |
| VIII | 1, 2, 3, 4, 7, 8, 9, 10, 11 | 5 | 6, 27 | 28(M*) | 20(M*) | | 12, 30(M*) | 13 | 17, 21 | 15, 16, 18, 19, 20, 22, 24, 25 | 14, 23 | | 26, 27 | |
| IX | 4 | 5 | 6 | 7 | | 8 | 1, 2, 15 | 3, 9, 10, 16 | 18, 19, 20 | 11, 12, 13, 14, 17, 21, 22, 23 | | 24, 25, 26 | | |
| X | | | | | 14 | 15 | 20 | 16, 17, 21, 22 | 25 | 18, 19, 23, 24, 26 | | 27 | | |

(M*) Menstruation

Note: Where days are omitted comparative material was not available.

* Comparative material was lacking for the ovulatory period, thus ovulation could not be stated.

terized late adolescence. Both patients were unable to venture a heterosexual relationship before psychoanalytic treatment.

We shall now examine how this sexual inhibition was reflected in the gonad function. During the second year of psychoanalytic treatment, when therapeutic reactions to the treatment were already observable, we made a study of 10 cycles. The following table shows the variations of the cycles; the figures represent the day of the cycle on which the particular hormone phase shown in the heading was diagnosed.

This table provides evidence for the following description of her sexual cycles. The postmenstrual phase of low hormone level is long, except in Cycles I and IX. The preovulative estrogen phase is only a few days long and in some cycles is hardly noticeable. Similarly, the high progesterone phases are short, while the low hormone level periods in the premenstrual phases are long. Thus the cycles were almost continuously at a low hormone level. Indeed there are cycles—for example, IV and V—in which cyclical changes were almost entirely absent until the last premenstrual days. Another characteristic of her cycles (except Cycles I, II, and X) is that estrogen production increases during the premenstrual phase and remains high during the menstrual flow. Thus the highest sexual desire in this patient would occur during the late premenstrual and menstrual phase; she rarely has genuine sexual desire during the rest of the cycle. We may almost term these “reversed cycles,” of which interesting examples are VIII and IX. During the course of Cycle VIII she experienced actual sexual stimulation to which there seemed to be no prompt response. On the 26th day of the cycle, during the menstrual flow, the hormone level increased suddenly, and on the 29th day, ovulation was diagnosed. After the flow had ceased, the first and second day of the next cycle showed high progesterone production. Thus the menstrual flow did not preclude a new cycle but occurred in mid-cycle. The new cycle and estrogen production began on the fourth day after the flow ceased. For the sake of completeness we wish to point out that in Cycles II and X, when ovulation occurred on the tenth and the fourteenth day, respectively, the premenstrual and menstrual phase had shown low hormone production. The gonadal cycles of this shy and sexually inhibited patient seem characterized by a somewhat insufficient hormone production.

The variations in level at low hormone, as well as the typical and atypical variations of higher hormone production, are clearly reflected in the psychoanalytic material. We had comparative data for 165 days; estrogen was diagnosed for 67 days, progesterone 48, and low hormone level 74. Allowing for the 24 days which are counted in

both estrogen and progesterone columns, we note 91 days of moderate hormone production and 74 of low; this indicates that the periods of low hormone level are comparatively long.

Predictions were made by evaluation of the following psychodynamic tendencies:

| | |
|-----------------------------|-------|
| Estrogen Correlations: | |
| Heterosexual tendencies | 38 |
| Defense, anxiety | 20 |
| Identification with brother | 14 |
| Other infantile tendencies | 24 |
| | <hr/> |
| | 96 |

Heterosexual tendency was expressed by 38 genital and 58 infantile psychodynamic tendencies.

| | |
|--|-------|
| Progesterone Correlations: | |
| Narcissism | 16 |
| Homosexual tendencies | 15 |
| Conflict with mother and sister | 28 |
| Pregnancy and nursing tendencies | 8 |
| Oral receptive tendency and dependence | 27 |
| | <hr/> |
| | 94 |

Instead of a mother-identification there is a hostile, frustrated dependence on her expressed in the psychoanalytic material chiefly as a correlate of progesterone production. Thus there were 56 infantile and 38 genital manifestations correlated with progesterone.

| | |
|--|-------|
| Low Hormone Level Correlations: | |
| Dependence | 32 |
| Depressed, withdrawn | 25 |
| Anal and urinary eliminative tendency | 14 |
| Genital eliminative tendency | 2 |
| Infantile sexual tendency | 4 |
| Negative narcissism (inferiority feeling and self-destruction) | 6 |
| | <hr/> |
| | 83 |

Here also the genital level of eliminative tendency occurs very rarely. In this case the genital level of the organization of sexual drive appears rarely and the correlations were predominantly expressed as infantile, pregenital tendencies.

SUMMARY. In this patient there is a complex interrelationship between psychosexual development and gonad function. A severe

infantile disease affected her development, leading to fixation at an early developmental phase. This brought about dependence on her mother which exposed her to early sexual experiences from which she recoiled. Her masculine identification was a defense against feminine sexuality, a defense which broke down at the menarche. But her feminine sexuality did not progress; instead it regressed to an infantile level. Her hormone cycles showed insufficient ovarian function.

Whether this regression was caused by the emotional factors involved or whether a primarily labile endocrine system was responsible for the insufficient gonad development, we do not know. We note again that the mother of the patient, although she had five pregnancies, became very obese in early years and that other women in the patient's family had shown different degrees of endocrinological disturbance. For this reason we cannot exclude the possibility of a constitutional factor which may have contributed to the insufficiency of endocrine function. The lack of integration of her sexual tendencies may be the result of this unknown factor and its relationship to her psychogenetic development.

In Tables 38-40 we present three cycles of this patient which suffice to demonstrate the problems discussed.

Case XIII

This patient, an unmarried woman of thirty-two, was accepted for psychoanalytic treatment in order that we might study the psychosomatic correlation of her oligomenorrhea. Emotionally she was not much disturbed by her menstrual disorders. She complained of headaches and suffered from depressed moods, inferiority feelings, bashfulness, and a painful self-consciousness in the presence of men.

Medical History: The patient had had no serious illnesses; her physical development during childhood was normal. One sister had had a psychosis of schizophrenic character, and although the family had various kinds of nervous disorders, no heredity of endocrinological disturbances could be established.

Menstrual History: The onset of menstruation occurred when the patient was twelve. Her menstrual periods were regular until about four years before psychoanalytic treatment began; at that time they became irregular and scanty. In 1937 the menstrual flow occurred only in July and November; in January, 1938, she again menstruated. The psychoanalytic treatment began on January 12, 1938. Menstrual flow occurred on February 14. Following this time her menstrual periods became quite regular.

Medical Findings: The patient is four feet ten inches in height; her proportions are symmetrical and average for her height; her weight, normal. Her head, however, appears to be big and heavy. Though her hair is heavy, there is no excessive or abnormal hair growth indicative of virility. Her eyes are moderately prominent, but examination showed no lid-lag, nystagmus, or disturbance of the ocular muscles. The thyroid was slightly enlarged but symmetrical and firm; no bruit was heard. Pulse, 70-80. Blood pressure not taken. B.M.R.'s +7 and -1. Urine assays for hormones: Estrin—6 R.V. The assay for gonadotropic hormone showed a complete absence in a twenty-four-hour specimen. The total lack of this hormone in a single specimen signifies nothing but suggests the possibility of suppression of the pituitary with secondary ovarian failure and subsequent oligomenorrhea.

Gynecological Examination: "Introitus vaginae was small; hymen was quite thin. The cervix was quite small but the uterus was about normal, markedly anteverted, suggesting infantilism. The tubes and ovaries could not be felt; this precludes any cystic ovary with its resultant effects."

Family History: The patient, who came to this country when she was five, was from a poor Jewish-Polish family. Her parents are alive, both about seventy years of age. The father has always had a small shoe repair shop; he is still working but is now supported by his children. He was never successful, was always an inconspicuous personality. Throughout the patient's psychoanalysis he remained completely in the background. The mother was described by the patient as a compulsive, depressive personality, always worried about something, rigid in her habits but indifferent and untidy as a housewife. She had never become accustomed to American ways; she interfered a great deal in the lives of her adult children, causing constant conflict. Every step which the patient or her siblings made to create a more pleasant life met with criticism and resistance on the part of the mother. The children suffered not only from poverty and narrow-mindedness but from lack of affection and warmth as well. Although we usually find that this class of Jewish parents compensates for material deprivation by an abundance of emotional indulgence, it was not so in this instance. The patient could not remember ever having been kissed by either parent.

The patient was the second youngest of seven children. All the siblings lived in the same city in a closely knit family unit. The oldest brother and sister were hardly mentioned by the patient, although they played an important role in her early life. One sister, three years older, had repeated attacks of mental disturbance—apparently schizo-

phrenic episodes. The only close contacts the patient has are with the next older sister and her younger brother, R. This sister, S., was unquestionably a highly neurotic person. She was unmarried and had no social contact with men, but she dominated the patient. R., two years her junior, was the youngest in the family and a rather passive type. He had many boy friends, was unmarried at the beginning of the patient's psychoanalysis, and shared the parents' home with the patient and S. For the last nine years the patient has worked as an employee in a small business owned by S. and R. It is significant that the patient has never objected to her subordinate position nor considered becoming a partner in this business.

Developmental History: Psychoanalysis succeeded poorly in lifting the infantile amnesia in this case. The patient was not cooperative; her emotional reactions were shallow and she complained only of her actual inhibitions and deprivations. This interfered with the progress of the analysis so that the reconstruction of her psychosomatic development remains unsatisfactory.

The patient's early childhood was spent in a small village in Poland. As an infant she was breast fed. She learned to walk and talk at a normal age, and her toilet training was accomplished without difficulty. As a child, the patient formed her strongest attachment to the eldest sister—thirteen years her senior—who took care of her. She was always a fearful child; she was afraid of physical pain; she was afraid of the dark, of mice, rats, etc. One of her earliest memories is of a fire in which half the village was burned up. This was perhaps the outstanding trauma of her life. When she was three her father left Poland for America, to be followed by his family two years later. His departure probably interrupted the development of the patient's relationship to him. Of her relationship to her mother, we also know little. The analysis uncovered no memories of the brother's birth or her reaction to this event. It seems obvious, however, that this narrow poverty-stricken environment was full of sexual stimulation. The patient does not remember a time in her life when she did not masturbate. What was the most important factor activating the masturbation, we do not know. She recalls no masturbatory fantasies; she remembers only the guilt-feelings which developed later. The earlier masturbation—before she was five—was evidently uninhibited and undisturbed by guilt-feelings. Although the eldest sister, a mother-substitute, had married and had a child before the patient left the old country, even these important events fail to bring forth any vivid recollections. Though the analysis was unable to reconstruct the influence of single events upon her early development, it did show how powerful were her general inhibitions and her fear of change.

She wished to stay with her eldest sister in the old country rather than come with her mother and the rest of the family to America. This desire, which remained a very clear memory, shows how fearful she was of the change and how painful she found the adjustment to the new life.

At first she was teased by other children because of her language and her poor clothing. At six she went to school and learned English quickly; but her inferiority feelings grew. At home she suffered from poverty and lack of attention; everything she learned outside the home was strange and forbidden. The depth of insecurity in which this child lived is evidenced by her fearful belief that the whole world might be destroyed by fire, a phobic idea which developed when she was seven. This fantasy shows not only the deep effect of the disaster she had witnessed but also her longing for the old home and her feeling that she could find safety nowhere in the world.

The patient was a good student; she got along well with her teachers but did not make friends among the other children. Everybody preferred the company of her sisters who were more lively and more attractive. Even her brother liked to play with the sisters rather than with her. She readily accepted this "Cinderella" role, at least on the surface; she did not revolt against it but explained it as a result of her unattractive appearance. Not only did she yield to this idea of being unattractive, she exaggerated and emphasized it as a protection against sexual danger of which she was always aware. Though we do not know what activated her early masturbation, we do know that later she became more and more burdened by guilt feelings because of it, and that the guilt seemed to be related to heterosexual tendencies. When she was just a young child she felt ashamed and guilty if a boy playmate were designated as her "boy friend," and she would never play with him again. The patient has always been extremely bashful; she would not undress even in her sisters' presence. This symptom indicates her voyeur tendencies; her fear of being looked at is a denial of the guilt over her sexual curiosity. The objects of her hidden sexual curiosity were her brothers—the oldest one in the earlier period perhaps, but later, according to the psychoanalytic material, the younger. Her bashfulness and modesty at this early age had further motivation—deep dissatisfaction with her own body because she was not a boy. The psychoanalytic material repeatedly shows a deep regret that she has no penis. Under great emotional tension, she wishes something could be cut out of her body so that she would not feel frustration (Cycle VI, December 18). Thus we assume that the exaggerated awareness of the fact that she was unattractive, the steady dissatisfaction with her own body was motivated by (1) her

guilt because of masturbation and (2) her wish to have a penis. Her wish for a penis, basically sexual in character, increased her sexual guilt and added to her feeling of shame. This sense of guilt is responsible for her early feeling that her sister S. and her brother R. were so much better than she, and for her subordination to their superiority.

Bashfulness, fearfulness, guilt feelings, and inhibition characterized her emotional condition when she reached adolescence. Though she started to menstruate at twelve, we have the impression in this case that it is arbitrary to speak of her adolescence for the reason that menstruation did not signalize a renewed process of growth and new adaptation. The onset of menstruation was not marked by any conscious emotional reaction; like everything else it was for her something to be accepted. But her unconscious defense against sexuality became more intense; she developed a conviction that she was not fit for marriage or childbirth, that for her, men and sexuality did not exist. She continued to masturbate, but in a mechanical fashion, without fantasies, until she was about eighteen, when she read that masturbation was harmful. This made her even more miserable. She began to fight against masturbation and continued this struggle until about five years before analysis when she finally succeeded in suppressing all conscious desire to masturbate. From that time on her sexual life ceased completely. She said, "Not even in fantasies and dreams did a sexual thought enter my mind."

About a year later her menstruation became scanty; oligomenorrhea became worse and worse until she had periods of amenorrhea lasting four to six months. In a dream early in the analysis she pictures herself as an old woman with white hair, perfectly content to be old. From her fear of sexuality and her guilt she seems to have only one escape: to be old, as her mother now is, and therefore to be safe from sexual desire. Her suppression at this point seems successful; even the physiological function, menstruation, changed. Her wish to escape sexuality deluded her, however, for although she was proud that no sexual thought entered her mind and that she no longer had a desire to touch her body for the purpose of sexual gratification she nevertheless became painfully preoccupied with sex. Whenever she was in the same room with a man she was conscious of his penis—a preoccupation so disturbing that she could hardly work if a man was present. After a while she developed a defense against this sexual preoccupation by means of projection. She denied that she was disturbed by sexual thoughts and became convinced that her presence upset men, causing them sexual stimulation or irritation. This conviction made her feel that she must avoid men lest she interfere with their work. The projection, which shows the same mecha-

nism as erotomania, activated even more compulsive defense reactions and increased her bashfulness. This symptom-complex was the chief motive for her seeking help through psychoanalysis.

We see here a complicated symptom-complex. While sexual repression succeeds in suppressing menstruation, obsessive preoccupation with sexuality increases, producing symptoms similar to a psychosis. The laboratory assay made before psychoanalytic treatment showed in a twenty-four-hour specimen a total lack of gonadotropic hormone which may suggest a suppression of the pituitary function. Shortly after this urine assay was made, the patient had a menstrual-like flow. The analysis started on January 12; the first reaction to the treatment was a reestablishing of periodic bleeding. This was a purely superficial emotional reaction, a "transference effect." This woman, who had fearfully avoided all sexual stimulation, was now exposed to the danger of being alone with her analyst (a man) for an hour every day, a situation which in itself meant gratification and stimulation. She had learned about psychoanalysis accidentally and had applied for treatment with the expectation of being refused for she thought her case would not be "important enough." Even after the treatment began she was sure that the analyst could not bear her and that he would discontinue after a few sessions. It was a great satisfaction for her that this did not happen, that the analyst continued to be interested in spite of the difficulties caused by her inhibition in expressing her thoughts and feelings. Thus for the first time in her life she felt accepted by a man; she reacted to this professional situation with a conscious desire to be loved by the analyst. The wish to be old vanished; she longed to be young and attractive. Although she suffered a great deal from her feelings of inferiority—she was extremely masochistic—she learned to accept the fact that she wished to love and to be loved. This produced sufficient sexual tension to reestablish the periodic bleeding. During the analysis the menstrual periods were almost regular, twenty-five to twenty-eight days; the flow lasted two to four days and became less scanty. It is significant, however, that this therapeutic effect did not make her feel better; her depression, her discontented and inhibited way of living, remained. After a longer period of analysis the patient overcame her inhibition to touch her genitals and was thus able to prepare vaginal smears, although she was reluctant to do so.

In spite of ovarian dysfunction the patient did not suffer from the usual subjective symptoms of ovarian failure. This fact suggests that the pituitary dysfunction was the primary cause of the suppressed gonad function. We might think that a lack of gonad hormones accounts for her shallow emotional reactions and for her lack of desire

to reach a normal sexual life. It is interesting to note, however, that when hormone treatment was offered to her she refused to cooperate. She wanted the psychoanalytic treatment, she was ready and willing to make sacrifices for it because it satisfied her passive needs and provided ego-gratification and protection against sexuality. The

TABLE 16

CASE XIII

| CYCLE | PREOVULATIVE | | | | POSTOVULATIVE | | | | PREMENSTRUAL PHASE | | | MENSTRUAL PHASE | |
|-------|--|---------------------------------------|--|--------------------|---------------|---------------------------|--------------------|-------------------------|-----------------------------|---------------------------|----------------------------------|------------------|---------------------|
| | Post Menstrual Low Hormone Level | Incipient Estrogen | Increasing Estrogen | Estr. & Min. Prog. | Ovulation | Luteinization of follicle | Progesterone Phase | Decline of Progesterone | Premenstrual Incip Estrogen | Decline of hormone L.H.L. | Increase of hormone | L.H.L | Increasing Estrogen |
| I | 1, 2 9 10 | 3, 4, 5 11 | 6, 7, 8 | 12, 13 | * | | 15, 16 | 17 | | 18, 19 | | 20 | 21, 22, 23 |
| II | 9, 10, 11 15 16 | 1, 2, 3 4 12, 13 14 | 5 17, 18 19, 20 | 6, 7, 8 21 | | | 22 | | | | | 23, 24 25 | 26 |
| III | 1, 2, 3, 4 | 5, 6 | 7 14 15, 16 | 8, 9, 10 11 | | 12, 13 17, 18 | | 19 | 20 25 27, 28 | 21, 22 23, 24 26 | 29, 30 31, 32 | | 33 |
| IV | 1 9 10 | 2, 3, 4 5 | 6, 7, 8 11, 12, 13, 14 17 | 18 | 19? | 15 | 17 20, 21 22 | 16 23, 24 | 25 | | | 26, 27 28 | |
| V | 2, 3, 4, 5 11, 12, 13 14, 15, 16 | 6 17 | 7, 8, 9, 10 18, 19, 20, 21, 22, 23 24 | 25 | | 26 | | 27 | 28, 29 | | | 30, 31 | |
| VI | 1, 2, 3, 4, 5, 6, 7 | 8, 9, 10 | 11, 12, 13, 14, 15, 16, 17 | 18, 19 | 20? | | 21, 22 23 | 24 | | 25, 26 27 | | 28, 29 30 | |
| VII | 1, 2, 3, 4, 5 8 9, 10, 11 | 6, 7 | 14, 15, 16, 17, 18, 19, 20 | | | | | | | 21, 22 | 23, 24 25, 26 32, 33 34 | 35, 36 37, 38 | |
| VIII | 1, 2, 3 7 | 4, 5, 6 8, 9, 10, 11, 12, 13 | 14, 15 | | | | | | 16, 17 | 21, 22, 23, 24 | 18, 19 20 | 25 | 26 |

NOTE: Where days are omitted comparative material was not available.

* Comparative material was lacking for the ovulatory period, thus ovulation could not be stated.

analysis failed to lift her basic repression of sexuality, and so she chose to remain sexually inhibited rather than to have the gonadotropic hormone injections which might have exposed her again to the necessity of adapting herself to sexual development.

Table 16 shows the variations of her eight cycles which we were able to study. The figures represent the day of the cycle on which the particular hormone was diagnosed, as shown in the heading.

This table shows that in two cycles ovulation was questionable; in one cycle both ovulation and luteinization of an unruptured follicle were diagnosed; in two other cycles luteinization of the follicle was diagnosed; and in three cycles neither ovulation nor luteinization of the follicle occurred and progesterone was entirely lacking (except for one day in the second cycle). Insufficient progesterone production is the outstanding endocrine characteristic of the sexual cycles of this patient. Although estrogen production never reached the same peak as in the other cases, the table shows that the estrogen phase of the cycle was of normal duration. There was only one cycle (IV) in which an adequate progesterone phase developed. In other cycles, after the estrogen phase reached its moderate peak, a reduction of hormone production followed. The premenstrual phase was long and showed a marked increase of estrogen production in Cycles III, VII, and VIII. In two of these cycles, VII and VIII, the progesterone phase was entirely missing, and in Cycle III luteinization of the follicle probably occurred. Thus five cycles showed fluctuation of a single hormone, while the other three cycles showed short but recognizable progesterone phases. It is on this basis that we assume a hypofunction of the ovaries. The physiological mechanism of this ovarian hypofunction is not clear. As we have mentioned, the patient did not suffer from the symptoms which usually accompany ovarian failure. Although the ovarian function remained insufficient, amenorrhea disappeared.

Parallel to the insufficient hormone production, the emotional cycle shows very little cyclical change. There was an undercurrent of heterosexual tendency which seldom was expressed as sexual desire; it almost always appeared together with a fear of humiliation and with inferiority feeling. This was sometimes expressed by compulsive preoccupation with the penis, and sometimes as increased self-consciousness and bashfulness—defense reaction to a sexual need that fails to reach consciousness. When estrogen production is reduced, the emotional reaction is tearfulness and sadness. If there is progesterone, the conscious emotional manifestations show little change: she expresses less heterosexual fear and more dependence. The psychosomatic symptoms of the premenstrual phase are only an aggravation of her usual symptoms of fear and inferiority. She cries more easily than at other times, and her headaches and feelings of being detached from her environment are more marked. Two cycles are presented. Table 41 shows that Cycle VI, her "best" cycle, was an

almost normal, ovulative cycle; related to the higher hormone production, there are more severe emotional reactions. It is in this cycle that her almost despondent emotional defense against increased sexual tension may be noted, and her impatient desire to rid herself of sexuality by self-castration and so to avoid humiliation. Table 42 presents Cycle VII without a progesterone phase.

Despite her shallow emotional reactions, correlations with hormone production during the eight cycles were possible on all but nine occasions. There were comparable data for 108 days. Estrogen was diagnosed for 67, progesterone for 19 days. There were only 11 days on which both estrogen and progesterone were present; low hormone level was diagnosed for 33 days.

The predictions were made by evaluation of the following psychodynamic tendencies:

Estrogen Correlations:

| | |
|---|-------|
| Heterosexual tendency (preoccupation with penis) | 40 |
| Infantile sexual tendencies | 8 |
| Defense reactions and libidinization of own body (infantile) | 37 |
| | <hr/> |
| | 85 |

Progesterone Correlations:

| | |
|----------------------------------|-------|
| Homosexual tendencies | 4 |
| Narcissism (inferiority feeling) | 10 |
| Mother-conflict | 4 |
| Pregnancy | 0 |
| Nursing and feeding | 0 |
| Dependence | 3 |
| | <hr/> |
| | 21 |

Low Hormone Level Correlations:

| | |
|---|-------|
| Dependence | 9 |
| Withdrawn and depressed | 22 |
| Anal and urinary eliminative tendencies | 1 |
| Genital eliminative tendencies | 0 |
| Self-destructive tendencies | 3 |
| Hostility | 7 |
| | <hr/> |
| | 42 |

The evaluation of these psychodynamic tendencies and the comparison with similar material of other cases leads to the inference that the psychodynamic manifestations of sexual drive in this patient are more infantile than in our other patients. Even the progesterone correlations are infantile and without any genital tendency. Lack

of progesterone production is also manifested in the fact that low hormone level is expressed only once by eliminative tendency—a sign of diminishing progesterone. Her psychodynamic manifestations of progesterone production and of low hormone level show various infantile and nonlibidinous tendencies.

While the psychiatric classification of this patient might be "infantile and inhibited personality," a proper diagnosis might also be "secondary ovarian insufficiency." The latter may explain the psychiatric diagnosis. The gonad hypofunction was taken to indicate a lesser degree of integration of the sexual drive which may be responsible for her lack of affect. Whether her traumatic experiences and emotional disturbance caused suppression of pituitary function, or whether the pituitary dysfunction was primary and resulted in inhibition of her development from early childhood, still remains a question.

SUMMARY. In early childhood the patient was exposed to sexual stimulation. She was burdened by the care of her brother when she was very young and came to hate him. She experienced a repetition of the trauma of her mother's pregnancy when her sister had a child, yet all these events were subjected to a deep repression which was unresolved by the analysis. These early traumata did not result in repression of sexual stimulation, however. On the contrary, this stimulation seems to have been intense; she masturbated mechanically without emotional response. In preadolescence she developed a sense of guilt regarding masturbation which may have brought about further inhibition of psychosexual development. Menarche occurred at twelve, but it was only a physiological function and did not induce a new phase of psychosexual development. There may have been some growth in her emotional life requiring contact with the other sex, yet she could not adapt herself to an increase of sexual need. Thus her defense reactions, bashfulness, and inferiority feelings progressed and her discontent increased. Her sexuality was not repressed; there was always an undercurrent of awareness of sexual feeling—perhaps characteristic of lack of sexual integration and similar to her compulsive masturbation. After she gave up masturbation, her menstruation became scanty while her sexual tension became more manifest and disturbing. This brought her to the verge of delusion. There seems to be an interrelation between her struggle against sexual feelings and the suppression of menstruation. She welcomed the disappearance of menstruation as a sign that she was freed from womanhood. When her ovarian function was suppressed, her psychosexual functions regressed to the sexual interests of her childhood. She could again enjoy sexual excitement without fantasy and without the typical

feminine anxiety of being sexually attacked. She suffered only from the fear that she might be detected as she secretly and enviously observed the penis. We have shown that this regression is related to suppression of ovarian function, as a consequence of which there resulted a deficiency of the specific hormone substratum of womanhood, of progesterone. She was aware of an incompleteness and of a difference between her feelings and the emotional life of other girls. She forbade herself complaints about her sexual feelings, but expressed her dissatisfaction with her own body and allowed herself a feeling of martyrdom. She blamed her environment because it could not compensate her for her deprivations—she was not a man and yet could not be a woman; she therefore regressed and became a dependent child. Thus she lived in the vicious circle of her endocrine dysfunction and severe narcissistic neurosis, the most conspicuous symptom of which was inhibition.

In Tables 41 and 42 we present two cycles of this patient which suffice to demonstrate the problems discussed.

Summary and Discussion

We have presented the developmental history of seven cases and have studied the interrelations between the structure of the personality and the sexual cycles in each case. In our presentations we have emphasized those crucial points of development at which integration and adaptation to new stages of growth have become a psychological necessity. We have cited instances when we assumed that integration had occurred smoothly; we have worked out the motives that interfered with such integration, thus causing developmental disturbances in other instances. In order to define the psychodynamic factors in a given developmental disturbance, we have established the level of fixation, namely, the constellation of the psychodynamic tendencies which were effective at the time of the developmental disturbance and which would reinforce the fixation should a later trauma interfere with further integration. Our task has been to inquire whether or not these developmental disturbances have interfered with the phase of sexual development that sets in at puberty.

We have presented a tabular analysis of the gonadal cycles for each of seven cases, showing the hormone state of each day and the length and the variations of each cycle. We have enumerated the psychodynamic tendencies correlated with each hormone state. In order to evaluate the results of these individual case studies, we now summarize the significant findings in each case, comparing the cases with one another as well as with some of the cases presented only in the general survey (Chapter 2).

Case I. In this case the psychosexual development reached the genital level of integration. Corresponding with this psychosexual maturity, the gonad function developed normally. Table 10 shows (1) that the hormone cycles were normal, (2) that there was considerable irregularity in the time of the ovulation, and (3) that the preovulative phases of the cycles were relatively short and the progesterone phases markedly longer than those phases when only estrogen was diagnosed. We cannot determine whether the long progesterone phase sustained the psychodynamic process or whether the psychodynamic conflicts were primary in producing an overbalance of progesterone. We do know that her main psychodynamic conflicts—the striving for motherliness, the desire for pregnancy and the defense against it—are correlated with the progesterone phase of the cycle.

We compare Cases II and IV with Case I. The study of Case II has shown that the psychosexual development of this patient in early childhood and preadolescence was normal; that she had reached psychosexual maturity. Corresponding to the genital level of sexual integration, her hormone cycles were practically normal, showing only slight variations paralleling her emotional responses. This case did not show the imbalance between estrogen and progesterone production which we found in Case I. The material in Case IV shows the same relationship between psychosexual development and the gonadal cycle. The early psychosexual development of this patient shows no regression. Although her chief defense reaction was narcissism, her gonadal cycles reflected a genital level of psychosexual maturity.

The psychosexual development of Cases VII and VIII was different. Psychoanalysis of these cases showed that these individuals did not reach the developmental phase of the oedipus complex without previous fixations, and in both cases several regressions followed. Although apparently so different in their personality structure and in character, both patients were described as personalities whose psychosexual development had not reached the level of genital integration. Corresponding to the pregenital level of psychosexual maturity, the hormone cycle of both cases showed a slight insufficiency of ovarian function. The type and course of their cycles were different and will therefore be discussed separately.

Case VII. The psychosexual development of this patient was characterized by oral fixation in early infancy, and consequently her personality structure was dominated by oral tendencies. The hormone cycles showed the following peculiarities (Table 11): (1) her hormone cycles were long; (2) the preovulative—progesterone-free—phase was exceedingly short; (3) since estrogen production rarely

reached full intensity, ovulation occurred relatively seldom (5 times in 13 cycles); and (4) the progesterone phases—developed after ovulation or as an effect of luteinization of unruptured follicles—were very long, of 10 to 20 days' duration. In this case we assume that the developmental suppression of the heterosexual tendency influenced the gonadal cycle, causing short and insufficient estrogen phases and an overbalance of progesterone production. The preponderant progesterone production was in this case, as in Case I, accompanied by psychoanalytic material which expressed strivings for pregnancy and mother-identification. Progesterone function corresponds with increase of receptive tendencies; in this case it almost always coincided with attacks of polyphagia. The preponderant progesterone phase, specifically, the intense reaction of the patient to the progesterone production, could be related to and explained by her psychodynamic conflicts in this case even more than in Case I.

Case VIII. The psychosexual development in this case was characterized by fixation at the urinary level of gratification.¹⁰ This fixation became the nucleus of the neurotic development of the patient; the enuresis, which was her most characteristic symptom, represented a condensation of the tendency toward identification with the mother in her function of giving birth and of the tendency toward masculine identification. Owing to the repetition of these regressive processes and to the developing bisexuality, her puberty was delayed; she suffered from dysmenorrhea. Her hormone cycles showed the following characteristics (Table 12): (1) the estrogen phases were short and often insufficient; (2) there were many anovulative cycles: ovulation occurred only during the later period of our observation, probably as a result of actual stimulation; (3) the progesterone phases, although often marked only by luteinization of the unruptured follicle, were relatively long, longer than the estrogen phases; and (4) the cycles were short because there was actually no menstrual phase. Following reduction of progesterone, the new cycle started and the menstrual flow thus coincided with the early preovulative phase of the next cycle. In this case, as in Case VII, we related the insufficient estrogen production to the regression of heterosexual tendency during the early development. The slight overbalance of the progesterone production, however, cannot be related to the manifest conflicts and symptoms of the patient as in Cases VII and I. In spite of this it seems that her problems of feminine sexuality were worked through by analyzing the

¹⁰ We assume that the basic constitutional differences between Cases VII and VIII are responsible for the fact that in Case VII the identification with the mother and baby brother reinforced the oral tendencies, while in Case VIII the same tendency reinforced urinary, eliminative tendencies.

cyclical repetition of her strivings for motherliness and her dependence on her mother.

Case IX. If we had made a classification of our cases on the basis of the hormone cycles, Case IX would belong to the same group as Cases I and II, for the hormone cycles of Case IX, when estimated on the basis of ovulations, appeared to be normal. But since we grouped our patients on the basis of their psychosexual development, we found that this case illustrates a type of development different from Cases I and II, whose fixating trauma occurred relatively late, and different from Cases VII and VIII, whose psychodynamic development was characterized by reinforcements of pregenital tendencies. In Case IX an early sexual stimulation arrived prematurely at an emotional development, and the patient therefore arrived prematurely at an emotional conflict on the oedipus level to which she reacted with great anxiety. In this case sexuality was not repressed, but the ego did not grow up to accept sexuality. The integration of the sexual drive, however, represented the genital level, and corresponding to this the hormone development was normal. Table 13 showed that (1) the hormone cycles were practically normal; (2) the phases of estrogen production were long in comparison with the progesterone phases, which were relatively short, except in those cycles in which the patient was under the influence of Antuitrin S. treatment; and (3) the low hormone level phases were short. This may be explained by the fact that there was always an undercurrent of estrogen production which was not masked even during the somewhat insufficient progesterone phase.

Cases XI, XII, and XIII represent another variation of psychosexual development, namely, different degrees of inhibition.

Case XI. Case XI illustrates a neurotic inhibition. The developmental history of this patient revealed that environmental factors were responsible for her sexual inhibition. Most characteristic of this patient was a lack of psychological material which would indicate the tendency toward identification with the mother or the tendency to become a mother. The need to be dependent and a masochistic fear of sexuality dominated her personality structure. Corresponding to this adolescent-like emotional maturity, her gonadal cycles were similar to those of adolescents. Table 14 showed that (1) ovulation seldom occurred, (2) estrogen production was slightly insufficient, (3) progesterone production diminished quickly, and (4) there were long phases of low hormone level. On this basis we classified her gonadal cycles as cycles of insufficient hormone production.

Case XII. In Case XII, the interrelationship between psychosexual development and gonad function was more complex. In this case, as in Cases VII and VIII, the developmental fixation occurred at an early age but it was even more severe. On the basis of the facts in her psychodynamic development alone, we could have classified her with Cases VII and VIII. Her hormone cycles, however, actually showed a greater degree of insufficiency, her emotional reactions manifested greater sexual inhibition than Case VII or VIII. Before psychoanalytic treatment, her menstrual flow had occurred at long, irregular intervals; during the treatment her cycles became regular in interval but remained irregular in other respects. Table 15 showed that (1) the estrogen and progesterone phases were short, even in cycles when we assumed that ovulation occurred; (2) there were cycles in which cyclical variations were almost entirely missing; and (3) there was a marked estrogen production in several cycles during the late premenstrual phase which increased during the menstrual flow. In one cycle we assumed that ovulation coincided with the menstrual flow. Progesterone production was apparently insufficient in this case. Corresponding with insufficient hormone production, her chief symptom was not a well-defined psychoneurotic or psychosomatic symptom but a general sexual inhibition. We have reason to assume that constitutional factors were more responsible for the insufficient gonad function than the psychosexual development would indicate. This insufficient gonad function, however, sustained the inhibited psychosexual manifestations of the patient. It excluded her almost entirely from the life of a normal woman of her age, thus barring her from sexual stimulation which might have increased hormone production.

Case XIII. This is true for Case XIII to an even greater degree. Psychiatrically, this patient would be classified as an infantile and inhibited personality—like Case XII. Endocrinologically, however, the suppression of pituitary function was suggested and a secondary insufficiency of ovarian function might be assumed. The developmental history of this case showed early sexual stimulation and excitation, as in Case IX. There were other traumatic events which also affected her physical and emotional development. Her developmental history after puberty showed a gradual recession of sexual activity, and parallel with this, an increase of compulsive preoccupation with sexual fantasies, a constant awareness of sexual feelings. Her hormone cycles (Table 16) showed the following peculiarities: (1) they were characterized by generally low hormone production, (2) estrogen production was more marked than progesterone which in some

cycles was completely lacking. Paralleling the gonad insufficiency, the sexual drive appeared at an infantile level of integration: there was no desire for motherhood or for any form of female sexuality. At the time of her psychoanalytic treatment, the vicious circle of the endocrine dysfunction and the emotional processes sustained a severe symptom-complex, a narcissistic neurosis.

This brief summary of the case histories permits the conclusion that there is a definite relationship between the psychosexual development of an individual and her hormone cycles.

1. If an individual reaches the genital level of psychosexual development without experiencing a fixating trauma in the pregenital phase, the hormone cycles are practically normal.¹¹ This does not mean, however, that such persons do not sometimes develop severe psychoneurotic symptoms. Cases I and II showed that if the development of a woman has been burdened by traumata even after the genital phase of development has been reached or in adolescence, the normal integration of feminine sexual function may be interrupted. The woman may then have severe mental and psychosomatic disturbances, even though the conflict remains a genital conflict and the woman has normal gonadal cycles. We do not intend to say that if the gonadal cycles are normal, the infantile development must necessarily have been normal. Case IX, for instance, illustrates this fact and demonstrates (as does Case XIII) that excessive sexual excitation may cause a sexual-like condition before total development—the integration of mental and physiological processes—is ready for it. In such cases sexual function develops first without adequate biological foundation and may so disturb the process of growth that normal integration of the mental and physiological processes can hardly be achieved. The difference between Case IX and Case XIII is that, while both remained infantile, the endocrine functions were not inhibited in Case IX and were inhibited in Case XIII.

2. If an individual experiences developmental disturbances during the pregenital phase of development to such a degree that fixation occurs, this may interfere with further sexual development. Cases VII and VIII illustrate that such fixation does not indicate an arrest of psychosexual development but only a complication, since at any time a new trauma occurs or when adaptation to new developmental processes become a necessity, the reaction may be a reinforcement of pre-genital tendencies. The personality structure is then dominated by a

¹¹ Of course we deal here only with psychosomatic correlations and not with gross pathological conditions. It is obvious that the sexual function of such persons can be secondarily disturbed or even destroyed by pathological processes—tumors, infections, systemic diseases, etc.

pregenital conflict. Corresponding to the pregenital fixation of personality development, the gonadal cycles show irregularities which may be related to the developmental conflict and may sustain a psychosomatic vicious circle. Not only Cases VII and VIII but also other cases of our study belong to this group. For example, the personality structure and hormone cycles of Case XIV are similar to those of Case VII, the psychosexual development of Case XV is similar to that of Case VIII.

Cases XI, XII, and XIII demonstrate the inhibition of psychosexual development. In correlation with inhibited and infantile level of sexual maturity, the hormone cycles show a slight but varying degree of gonad insufficiency.¹²

Variations of the Sexual Cycle

We do not presume that this small collection of cases affords a complete demonstration of the interrelationship between psychosexual development and the gonadal cycle. But having shown that such an interrelationship exists, we now wish to discuss the variations of the sexual cycle. We must remind the reader that all our cases belonged within the range of psychoneurosis and they were all of childbearing age. We did not study cycles of emotionally well-balanced individuals, nor did we investigate variations in the cycles of psychotic individuals. Except for Case XIII, urine assays and clinical examination had shown no endocrine pathology. Our study can therefore be considered as an investigation of normal women from the point of view of clinical endocrinology. We were able to differentiate various patterns of their gonadal cycles.

Our investigations showed not only that the gonadal cycles of different individuals represent distinctly different types, but also that the cycles of one woman might disclose, over a period of time, all the variations within the range of a specific type of gonad evolution. For example, Case I, who had gonad cycles of normal type, showed the following variations: (1) normal ovulative cycles (Cycle V, Table 17); (2) anovulative cycles in which luteinization of the follicle occurred (Cycle XII, Table 20); (3) bimodal cycles in which two ovulations were stated (Cycle XXI, Table 21); (4) cycles in which ovulation occurred only after hormone fluctuation in a somewhat pro-

¹² We did not discuss the long cycles of Case X who presented the problems of secondary amenorrhea in connection with many other psychosomatic symptoms. Nor have we presented her developmental history, for her psychosexual development was not directly related to the form of hormone cycle observed during the treatment. These hormone cycles—like cycles in preclimacterium and climacterium—showed a lower level of hormone production than her cycles might previously have shown.

longed preovulative phase. To these hormonal fluctuations we must add those which represent the variations of the premenstrual and menstrual phase which are characterized by low hormone and varying degrees of estrogen production. (Chapter 8.)

All this may give the impression that there are just as many minor variations in hormone production as there are cycles. This immediately raises the question as to whether or not we know the mechanism responsible for the variations in one and the same individual. First we must consider the following problem: since all of our patients showed variations and since all of them had both ovulative and anovulative cycles, what were the criteria by which we determined the degree of psychosexual maturity and the hormone correlations to the psychodynamic conflicts of each individual.

We have presented a summary of the variations of the cycles in Table 1 on page 29 as a general survey of our material. In this table, as well as in our discussions, the patients are designated by numbers representing approximately the order of their psychosexual maturity. This order was estimated by a rough scale of the ovulations in each case, since we assumed that a maximum number of ovulative and a minimum number of anovulative cycles represent the closest approximation to sexual maturity. But frequency of ovulation alone does not indicate the degree of sexual maturity; regularity of ovulation probably signifies a better coordination of the hormonal processes. In Table 1 we indicated the time of ovulation by determining the interval between ovulation and the onset of the next menstrual flow. This table indicates considerable variation among our patients as to the time of ovulation; Case II showed greater regularity than Case I; Cases IV and V showed a smaller range of variation in the time of ovulation than did Case I or Case II. A study comparing the days of ovulation of our cases demonstrates that we would have been quite mistaken in assuming that ovulation occurs at or about the middle of the cycle. In the tables presenting cycles for each case, and in the tables showing variations in the cycles of one individual (Tables 10-16), we estimated the length of the cycle by counting from the first postmenstrual day to the last day of the next menstrual flow, suggesting by this that the menstrual flow concludes rather than begins the cycle. These tables demonstrate that in spite of time variations which occur in every patient, there are more characteristic differences which indicate a more specific type of gonad process for the individual. Although our material is too limited to warrant generalizations, we give our impressions as follows: In Cases I, II, III, IV, V, whose gonad cycles approximate the normal, ovulation occurs about the middle of the cycle. Ovulation occurs late in the cycles of those

patients whose hormone production is insufficient, as in Cases XII and XIII. It was characteristic of Case VIII that ovulation occurred very early in the cycle, for the preovulatory phase had already started during the menstrual flow. In spite of this it appears that ovulation comes in the middle of the cycle; it is the shortness of the cycle which creates this impression.

The most obvious characteristic of the cycle is its length, that is, the interval between two menstrual flows. As we know, the length of the cycle is not absolutely the same even in those women who believe that the menstrual flow returns with the exactness of a clock. We mention here those variations which are marked enough to characterize the sexual cycle of the individual. These are the cycles of normal length, the short cycle, the long cycle, and those of variable length. From our material we can demonstrate that the length of the cycle is related to the hormone processes during the cycle. The cycles of Case VIII are short, as explained above. Cycle XXI of Case I was longer, 32 days, because there were two ovulations during the cycle. Cycle XII of Case I, 37 days, we found to be anovulatory, and though luteinization of the follicle was stated on the 10th postmenstrual day, the interval before the onset of the next flow was 27 days. The delay of the menstrual flow may be explained by the following facts: the hormone level was relatively low throughout the cycle—thus ovulation did not occur and the relatively short progesterone phase was followed by a longer low hormone level period. On the 23rd day of the cycle, when her menstrual flow would ordinarily begin, estrogen production increased suddenly and lasted about 9 days, increasing steadily as if to indicate a new ripening of a follicle. The onset of the menstrual flow occurred after the withdrawal of estrogen at low hormone level. In Case VII the length of the cycle was related to the length of the progesterone phase. The long cycles of Cases XI and XIII were explained by the generally insufficient hormone production. We shall not discuss the unusually long cycles of Case X because the secondary amenorrhea suggests another clinical problem and does not belong to the scope of our present investigation.

Our microscopic method of investigation revealed that the relation between the length of the estrogen and progesterone phases within a cycle affords the most significant information concerning the gonad function. Comparing our cases in this respect, we found that the cycles of Case II showed the greatest conformity to a normal relation, that is, the progesterone phases were shorter than the estrogen phases. After four or five days, progesterone production declined.

Those cases described in detail showed different degrees and proportions of imbalance between estrogen and progesterone production.

In Cases I, VII, and VIII, a preponderance of progesterone production was found. In Case I, in spite of sufficient estrogen production, the progesterone phases were prolonged. In this case the striving for motherliness was the central psychodynamic conflict. In Case VII, estrogen production was insufficient and progesterone phases prolonged because the estrogen levels were low and follicle maturity was not reached. The central problem in this case also was the striving for mother-identification. This goal, however, could not be reached until the repressed heterosexual tendencies were recovered. She had to learn to accept a genital relationship to man in order to attain a genital level of sexual maturity in regard to motherliness. In Case VIII, although at the beginning of our investigation both hormones were insufficient, the progesterone phases were longer than the estrogen phases. The problem of this patient was also the striving for motherliness, the need to overcome the dependence on the mother, to be able to have heterosexual relations, and thus to become a mother.

Case IX did not reach a state of emotional maturity which would create a goal of mother identification; she was afraid to be like her mother. Her sexual cycles were characterized by a steady undercurrent of heterosexual (estrogenous) tendency, but progesterone production remained insufficient. Her sexual cycles were closer to the adolescent type than the number of ovulative cycles alone would indicate.¹³

Cases XI, XII, and XIII represented this adolescent type of sexual cycle in graded order. The number of ovulations decreased from case to case, the cycles became flatter because both hormones were actually insufficient. The relation between the estrogen and the progesterone phases within the cycles shifted as follows: the more inhibited the gonad function, the less production of progesterone. In Case XI there are cycles without a progesterone phase. In Case XII we found the tendency for mother-identification, for pregnancy and nursing almost completely lacking; the progesterone production was expressed by infantile tendencies, by the wish to be dependent on a mother, or to be loved and admired by women. Although the distribution of psychodynamic tendencies in correlation to progesterone production is somewhat different, in principle the same is true for Case XII. In Case XIII the psychodynamic tendencies corresponding to progesterone production rarely occurred. If progesterone production induced psychodynamic manifestations, they were expressed only by

¹³ The relationship between long estrogen and short progesterone phases in this case was changed under the influence of Antuitrin S.

infantile tendency to dependence and by the desire to be loved; in the whole psychoanalytic material, the propagative tendency, the desire to be a mother, never occurred.

Progesterone is the specifically female hormone. Its production develops after puberty as a function of gonad maturity; its physiological and psychodynamic effect creates the cyclical change. It is therefore not surprising that its relation to estrogen production, its deficiency or preponderance, characterizes the variations of the hormone cycle. The balance between these two hormones reflects the level of psychosexual integration.

In Chapter 8 we have discussed variations in the hormone state of the late premenstrual and menstrual phases and we have offered some explanation of the fact that the emotional manifestations are more intense and the psychodynamic tendencies appear to be more regressed at this time than in any other phase of the cycle. The late premenstrual phase ends the cycle or it starts the new one or it repeats the same hormone process that induces the early premenstrual phase—namely, that estrogen production begins and then diminishes before the flow ceases. Our material is not sufficient to enable us to relate these hormone variations to the psychosexual development of the individual or to explain the premenstrual phase as a consequence of the hormone process during the cycle. Our observations are as follows: (1) bimodal cycles were rare in our material; (2) in those cycles in which the hormone level reached its peak and ovulation occurred, the late premenstrual phase was usually one of low hormone level; (3) increasing estrogen production often characterized the late premenstrual phase in those cycles in which hormone production was insufficient during the rest of the cycle and ovulation did not occur; (4) in one case, VIII, a type of hormonal regulation different from all the others appeared, in that the preovulative phase developed during the premenstrual-menstrual phase; (5) three other cases, IX, XI, and XII, showed an inclination to increasing estrogen production during the premenstrual phase in successive cycles. In these cycles, progesterone production was usually deficient. The conclusion seems valid that women of inhibited sexual development and with incomplete sexual maturity have premenstrual phases characterized by increasing estrogen production.

We have discussed the variations of the sexual cycle in the light of psychosexual development. We have shown how developmental factors determine the hormone and emotional manifestations of the sexual cycle. There is no doubt about the existence of an intricate interrelation between psychic (emotional) and physiological (hormone) factors. We have shown that the predictability of the hormone

state is evidence that psychic manifestations are acutely influenced by sex hormones. It remains to be investigated whether or not psychological motives influence gonad hormone production. For a discussion of this problem we have presented Cycle V of Case II (Table 23). In this cycle the premenstrual phase showed a very marked increase of hormone production, the preovulative phase which developed almost suppressed menstruation; ovulation was not stated. The corresponding psychoanalytic material showed that an actual sexual stimulation had occurred, the patient had experienced orgasm, and it was her own conviction that her happiness and exalted emotional state were a reaction to the experience. It is possible that the sexual stimulation did increase the hormone production but one must not overlook the probability that an already increasing hormone production in the premenstrual phase was responsible for her unusually strong sexual response, and that this was in turn followed by the hormone and emotional reactions we have already described. There were other occasions when we had the impression that actual stimulation increased hormonal production. Such was Cycle VIII of Case XII, such were also Cycles XVII-XX of Case VIII. In Case VIII, as we have already pointed out, the reaction to stimulation was not such as could be estimated from the hormone fluctuation within twenty-four hours but it could be seen as a result of a cumulative effect of psychoanalytic treatment and actual sexual stimulation.

It is also difficult to estimate the hormone reaction to frustration. In Chapter 6 we showed in Cycle I of Case I that frustration of sexual desire was frankly expressed in the patient's emotional reactions, though the frustration did not markedly interfere with the hormone production which increased to the point that ovulation occurred. Whether ovulation would have been accelerated by previous sexual gratification cannot be stated. We are also not certain what are the primary motives of the long low hormone level cycle of this patient in Cycle XII, which was discussed as an example of anovulative cycle. The psychodynamic material shows manifestations of depression and anger but these are not necessarily the activating factors of the lower level of hormone production. Throughout our material it often occurred that a decline of hormone production during the preovulative phase coincided with frustration but in these instances we cannot be certain which was cause and which was effect. Again we might assume that an already declining hormone production prepared the emotional and physiological basis for frustration, but it is equally acceptable to assume that the frustration and disappointment caused a suppression of hormone production, delayed the ovulation, and thus sustained an emotional tension.

We have the impression that we can differentiate between those persons whose gonad function is well established and those whose gonad function is more labile. For example, in Case II, the patient experienced a great emotional upset at just about the time of ovulation. No emotional relaxation developed but ovulative change could be recognized by the change in the psychodynamic material; ovulation was diagnosed on the vaginal smear. The course of events in Case XI seems to be different. In Cycle IV, Table 37, when the patient was informed that her analyst was going away for a vacation, she reacted to this disappointment with increasing dependence, and the vaginal smear taken the next morning showed decline of hormone production. We have no way of proving whether this reduction in hormone production would have occurred without the analyst's announcement to the patient. It is possible that her emotional reaction, the increased dependence, was an expression of already decreasing hormone production.

| TABLE | CASE | CYCLE | EXAMPLE FOR: |
|-------|------|-------|--|
| 17 | I | V | Ovulative (normal). |
| 18 | | VI | Irregular ovulative. |
| 19 | | VIII | Ovulative (for premenstrual phase). |
| 20 | | XII | Anovulative. Two preovulative phases. |
| 21 | | XXI | Bimodal. Two ovulations. |
| 22 | II | III | Ovulative. |
| 23 | | V | Bimodal. One ovulation. |
| 24 | VII | III | Anovulative. Sudden decline of hormone. |
| 25 | | IV | Ovulative. |
| 26 | | V | Ovulative. Long progesterone phase. |
| 27 | | X | Anovulative. Three luteinizations of follicle. |
| 28 | VIII | XI | Anovulative. |
| 29 | | XVII | Early ovulation. Preovulative phase during menstruation. |
| 30 | | XVIII | |
| 31 | | XIX | Early ovulation. |
| 32 | | XX | Preovulative phase during menstruation. |
| 33 | IX | II | Ovulative cycle. |
| 34 | | VIII | Anovulative. |
| 35 | | XIII | Irregular, ovulative. |
| 36 | XI | III | Ovulative (?). |
| 37 | | IV | Ovulative. |
| 38 | XII | III | No cyclical changes. |
| 39 | | VIII | Ovulation during menstruation. |
| 40 | | IX | "Reversed cycle." |
| 41 | XIII | VI | Ovulative. |
| 42 | XIII | VII | Insufficient progesterone phase. |

Hormone and emotional manifestations represent a psychosomatic unit: a distinction between cause and effect within the range of twenty-four hours seems almost impossible.

It has been necessary to study the development of the individual, the interplay of environmental and constitutional factors in the maturation of the personality, in order to disclose (1) that the pattern of the sexual cycle unfolds in correspondence with the factors which determine the personality structure; (2) that the sexual cycle, once established, is not a stable, unchangeable expression of the function of the sex hormones. Since the balance of the hormone function which governs the sexual cycle is labile, stimulating and inhibiting factors continuously assert their influence on the sexual cycle. Although we have presented only a few examples, we believe that, after discounting the variations attributable to personality differences and to the disguises superimposed by civilization, sexual behavior represents a functional unity of psyche and soma in woman.

The tabular presentation of twenty-six cycles in Chapter 10 will suffice to illustrate the problems discussed in this volume.

CHAPTER 10

VARIATIONS IN SEXUAL CYCLES

In this chapter the typical variations of sexual cycles within the normal range of the ovarian function will be illustrated.

The presentation of psychoanalytic material in such a way as to demonstrate the conclusions at which the investigator arrived has always been a critical problem of psychoanalytic communication. It is even more so in this instance when our intention is to present changes in emotional expressions for the period of one or more cycles of several individuals. In order to do so we have to tabulate our material.

The cycles presented are taken from the material of the subjects (except Tables 22 and 23) whose personality structure and its relationship to the sexual cycle has been discussed in Chapter 9. In confronting the discussion of each case with the corresponding tables in this chapter, we demonstrate that the study of the emotional fluctuations imposed upon the personality by the gonadal hormones has two intertwined phases. The first is the analysis of the genetic, structural, and psychodynamic organization of the personality. The other phase is the analysis of the day-by-day fluctuations in emotional expressions. Gauging the latter against the permanent structure and the characteristic responses of the personality, we interpret the motivations of the current emotional state.

In the first column the summary of the psychoanalytic record is presented. We are aware that such a synopsis does not represent the material but rather its interpretation, and therefore it is open to criticism and doubt. This would also extend to the next column which, under the heading "Psychodynamic Tendency," contains the interpretation reduced to the definition of the dominant manifestation of the sexual drive. The column entitled "Prediction" represents the diagnosis of the hormonal state arrived at by psychoanalysis.

The numbers listed in the column "Vaginal Smears" represent the cell types described in Chapter 3. Numbers in parentheses indicate the presence of only a few cells of the type so designated. The column "Temperature" refers to the basal body temperature. The diagnosis is stated in the column "Hormonal State."

The correlations were established by comparing "Predictions" with "Hormonal State." Discrepancies between "Prediction" and "Hormonal State" are marked with an asterisk in the date column if it is designated as "total discrepancy," and with a dagger if designated as "partial" or "quantitative discrepancy."

TABLE 17

October 24—November 17

Ovulative Cycle. Normal.

CASE I, CYCLE V

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|--|--|----------------------------------|------------------|---|
| Oct. 24 | Envy of sister's actual sexual life | Heterosexual tendency | Estrogen on low level | 7-1-2-(3) Occ. R.B.C. | | Incipient estrogen |
| 25 | Quite tense. Ambivalent to sister = analyst. <i>DREAM</i> : Male is inferior. Rage because of the male's incap- ability to give her enough attention | Heterosexual tendency. Narcissistic demands | Estrogen | 7-1-2-(3). Same | | Incipient estrogen |
| 26 | <i>DREAM</i> : 1) Fear of psychosis pro- jected to son. 2) Frankly homo- sexual transference. Vaginal sym- bolism. Homosexual transference increases the fear of psychosis | Heterosexual tendency. Homosexual tendency | Estrogen | 1-2-3 | 98.2 | Increasing estrogen |
| 27 † | Strong sexual urge. <i>DREAM</i> : 1) Oral impregnation. 2) Projection of conflict between sexuality and child | Heterosexual tendency. Impregnation | Estrogen and progesterone. Preovulative | 1-2-3. Leucocytic invasion | 98.0 | Increasing estrogen |
| 28 | No material | | | 2-3-(4) | 98.2 | Increasing estrogen |
| 29 | Wish to be exposed. Heterosexual desire. Speedy associations; chiefly, conflict with mother transferred to analyst; emotional tension | Heterosexual tendency. Feminine narcis- sism. Mother- conflict | Estrogen and progesterone. Preovulative | 3-4 | | Estrogen |
| 30 | <i>DREAM</i> : Feels excluded and re- jected; therefore, spite, narcissism, overcompensation, self-assurance. No analytic session | Narcissism. Hostility | Estrogen and progesterone. Preovulative | 3-4-(5) | 97.8 | Estrogen. Minimal proge- sterone. Preovulative |
| 31 | <i>DREAM</i> : Identification with mother. Tendency to feed people. Conflict between giving and receiv- ing very much intellectualized. Narcissistic presentation of knowl- edge. The angry tension relieved | Conflict between receptive and mother tendency. Relaxation | Progesterone. Ovulation | 4-5 | 98 | Ovulation. Estrogen Progesterone |
| Nov. 1 | <i>DREAM</i> : Jealous of sister's het- erosexual life. Oral envy re. sister. Association: friendly and relaxed. More libido | Oral receptive tendency. Hetero- sexual tendency | Estrogen and progesterone. Postovulative | 4-5-6 | 98 | Postovulative. Estrogen. Progesterone |
| 2 | Lack of confidence. Fear of rejec- tion of analyst = teacher = mother. Fear of being criticized | Dependence. Narcissism, nega- tive | Progesterone on lower level | 5-6-(7) | 98.0 | Progesterone. Luteal phase |
| 3 | Hostile. Mother-conflict. Very spiteful; defiance of mother = analyst | Dependence on mother. Hostility | Progesterone on low level | 5-6-7 | 98.4 | Slight decline in progesterone |

* In the date column indicates total discrepancy
† In the date column indicates partial or quantitative discrepancy

CASE I, CYCLE V—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|----------|---|--|--|----------------------------|------------------|----------------------------------|
| Nov 4 | <i>DREAM:</i> Denial of hostility toward brother and toward mother. Association: Very tense. Desire for heterosexual transference. Analyst is frustrated person. Fear of insanity; fear of suicide | Heterosexual tendency. Hostility. Mother-conflict | Progesterone, on low level. Estrogen | 5-6-7-1 | 98.6 | Progesterone decline |
| 5 | Patient is relaxed. Negative transference relieved. <i>DREAM:</i> Ambivalence re. mother. Feeling of superiority; also wish to reconcile with mother; the wish to be understood. Association: Insight into her various projections | Dependence. Reconciliation with mother | Progesterone | 5-6-7-1 | 99 | Progesterone decline |
| 6 | <i>DREAM:</i> Identification with son; fear of punishment. Dream has adolescent character,—being punished for vanity, for love and interest in body, perhaps also for masturbation | Narcissism. Masochistic dependence | Progesterone | 5-6-7-1 | 99.2 | Progesterone decline |
| 7 | Long involved <i>DREAM:</i> 1) Manifest heterosexual desire. 2) Seeks protection because of heterosexual danger. Fear of losing the child; ambivalence toward child | Heterosexual desire. Motherly feelings. Dependence | Estrogen and progesterone. Premenstrual | 5-6-7-1 | 98.8 | Decline in progesterone |
| 8 | <i>DREAM:</i> Increase of sexual urge. Mother=analyst forbids heterosexuality. Attachment to father. Relives the pain of parturition | Heterosexual tendency. Eliminative tendency on genital level | Estrogen. Progesterone on low level | 7-1-(2) | | Incipient estrogen. Premenstrual |
| 9 | Apprehensive, accelerated breathing. <i>DREAM:</i> Inferiority feeling. Overcompensated. Association: Heterosexual experiences. Envy of brother, mother's relationship to the brother. Hostility toward brother transferred to son. Repetition of her compulsive impulses during pregnancy—to attack the child is the same as to kill herself | Heterosexual desire. Aggression turned toward self. Eliminative tendency | Estrogen and low level of progesterone | 7-1-(2). Occasional R.B.C. | 99 | Incipient estrogen. Premenstrual |
| 10 | No analytic material | | | (7) 1-2 | 98.8 | Incipient estrogen. Premenstrual |
| 11 | <i>DREAM:</i> Heterosexual desire projected to mother=analyst. Aggression toward penis. Association: Incorporative and castrative toward penis of son | Heterosexual tendency. Castration tendency. Premenstrual reaction | Estrogen | 7-1. More R.B.C. | 98.6 | Low hormone level |
| 12 | After previous session, had diarrhea, cramps; resentful toward analyst=mother. Identifies with children who need to be protected | Eliminative tendency. Hostility toward mother. Dependence | Low level of progesterone. Premenstrual reaction | 7-1. Same | 98.6 | Low hormone level |
| 13 | Increased aggression. Wish to be loved; feels rejected, resentful. Incorporative tendency. Extremely hostile. Necrophagic fantasies re. penis | Dependence. Oral destructive tendency. Premenstrual reaction | Low hormone level. | 7-1. Same | 98.8 | Low hormone level |
| 14 | <i>DREAM:</i> Longing for home, for mother's womb. Association: Fear and defense against passive dependent tendency. Diminished emotional tension. | Dependence (Regression) | Low hormone level | 7-1. Same | | Menstrual |
| 15 | Feels more sober. <i>DREAM:</i> Wish to attack the child is projected to man. Wish to be attacked by father. Negativistic regarding men. Menstrual flow is profuse | Heterosexual tendency | Estrogen | 7-1. Same | | Menstrual |
| 16 | Profuse menstrual flow. Upset. <i>DREAM:</i> Denial of heterosexual desire toward father or husband but transferred to son. Guilt about it. Depressed | Heterosexual tendency | Estrogen. Low hormone level | No smear | 98.2 | |
| 17 | No analytic material | | | | 9.2 | |

TABLE 18

November 18—December 10

CASE I, CYCLE VI

Irregular Ovulative Cycle. Fluctuation in Postovulative Phase.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|---|--|-------------------------------------|------------------|--|
| Nov. 18 | <i>DREAM:</i> 1) Dependence on an analyst. Heterosexual desire but also homosexual desire. Great awareness of her own body, especially of buttocks and genitals. To be a woman means to be torn; menstruation | Defense against being a woman. Homosexual tendency. Heterosexual tendency | Estrogen | 7-2-3-(4). Occasional R.B.C. | 98 | Estrogen |
| 19 | Relaxed, laughing. Homosexual transference. Dependence, but aggressive reactions. Masculine identification | Heterosexual tendency. Masculine identification | Estrogen | 7-2-3-(4). Occasional R.B.C. | 97.8 | Estrogen |
| 20 | Sore throat. Felt "speeded up." "So many things happening." <i>DREAM:</i> All the problems of being mother projected to analyst. Identifies also with analyst's children | Great emotional tension. Dependence. Mother conflict | Estrogen. Progesterone. Preovulative | 3-4-5. | 98 | Estrogen. Minimal progesterone. Preovulative |
| 21 | Very tense; speedy associations. Heterosexual act=epileptic seizure. Relives very strongly the aggressive conflict with child | Heterosexual tendency. Mother-child conflict | Estrogen. Progesterone. Preovulative | 3-4-5 Few R.B.C. | | Ovulative. Estrogen. Progesterone |
| 22 | Dimness of eyes, talks rapidly. Identification with a client. Relives all her defensiveness against authority as well as her dependence | Mother-child conflict. Dependence. No heterosexual tendency | Progesterone. Ovulative | 4-5 | 98.0 | Ovulative. Estrogen. Progesterone |
| 23 | Tight sensation in throat. Wish to smother herself. Restless. Feels peculiar: uncontrolled but not aggressive. Nausea. Very libidinous. Homosexual feelings. Dependence on A., on husband; defense against it | Narcissism (Libidinous) Dependence. Homosexual tendency | Progesterone. Postovulative | 4-5-(6) | 97.8 | Estrogen. Increasing progesterone. Postovulative |
| 24 | Feels heavy, bloated. Dreamed about baby | Pregnancy material | Progesterone. Postovulative | 4-5-(6) | 99 | Estrogen. Increasing progesterone Postovulative |
| 25 | <i>DREAM:</i> Wish to be obedient to analyst=mother. Wish to give up spite reactions and masculine reaction. Sympathy for mother. Wish to reconcile with mother. Jealous of "slender girl" who is certainly more loved | Reconciliation with mother. Homosexual tendency | Progesterone | 5-6-(7) | 98 | Slight decline in progesterone |
| 26 | <i>DREAM:</i> 1) Homosexual transference. Husband helps against homosexual attack of analyst. 2) Leads to oral demands on mother. Mother has good things—sweets—to eat | Homosexual tendency. Fear of mother's aggression. Oral receptive tendency | Progesterone | 5-6-(7) | 98 | Slight decline in progesterone |
| 27 | <i>DREAM:</i> Identification with child, fear of mother because of her aggressive wishes toward mother. Fear of venereal disease as punishment for sexual guilt. Depressed | Mother conflict. Heterosexual tendency | Progesterone. Estrogen | 4-5-6. Occasional R.B.C. Leukopenia | 98.4 | Like ovulation. Estrogen. Progesterone |
| 28 | <i>DREAM:</i> 1) Ambivalence toward child. Hostility, aggression toward pregnancy. 2) Narcissistic gratification of being pregnant, having female body, "nothing but womb" | Pregnancy wish and defense. Narcissism | Progesterone, like ovulative | 4-5-6 | 98.6 | Progesterone. Estrogen |
| 29 | Fear of punishment, of being rejected as child. Ambivalence toward child. Depressed | Dependence. Relationship to child | Progesterone | 6-7 | 98.6 | Progesterone decline |
| 30 | <i>DREAM:</i> Competition with sister on oral level,—bottle of milk; cleaning the house. Homosexual fantasy projected. Association about dirtiness. Homosexual transference. Sibling rivalry, oedipus wish | Oral and anal regression. Homosexual tendency. Heterosexual tendency on infantile level | Decline of progesterone. Estrogen on low level | 6-7-1 | 98.8 | Low hormone level |

CASE I, CYCLE VI—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|---|----------------------|------------------|---|
| Dec. 1 | Feels irritable, sleepless. <i>DREAM</i> : Heterosexual transference. Genital wish is hidden—vagina = rectum | Anal regression. Heterosexual tendency | Estrogen and progesterone decline | 6-7-1 | 98.8 | Low hormone level |
| 2 | Pain in abdomen. Diarrhea. Restless, lonesome, dependent on analyst, inferiority feelings, recollection of "humiliating experiences." Increasing heterosexual desire. Talks about the "extremes of feelings." Diarrhea after analytic session | Dependence. Negative narcissism. Heterosexual desire. (conscious) | Decline of progesterone. Increased estrogen. Premenstrual | 7-1-2 | 99 | Increased estrogen. Premenstrual |
| 3 † | Coitus last night, feels better. Very speedy speech. She repeats all the conflicts: Heterosexual transference, oedipus wish, self impregnation, masturbation, pregnancy as punishment for masturbation, for sexual guilt, etc. | Heterosexual tendency and impregnation tendency | Estrogen and progesterone (like post-ovulative) | 7-1-2-(3) | 99 | Slight increase in estrogen |
| 4 | <i>DREAM</i> : Satisfaction with female body. Inferiority feelings about female genitals. Great awareness and curiosity about female genitals. Homosexual relation to sister. Heterosexual tendency projected to sister | Narcissism. Homosexuality. Marked heterosexual tendency | Progesterone dominant. Estrogen. Premenstrual | 6-7-1 | 99 | Decline in estrogen and in progesterone |
| 5 | Paranoid reaction, then obsessive singing. <i>DREAM</i> : Identification with analyst. Wish to have male analyst. Passive, masochistic attitude toward male analyst | Heterosexual tendency | Estrogen. Premenstrual | 7-1 | 99 | Low hormone level |
| 6 | Critical, irritable, negativistic. Has the feeling the house is dirty. Association: Heterosexual material connected with brother. Sex experiences of childhood | Anal regression. Hostility. Heterosexual tendency on infantile level | Low hormone level. Premenstrual | 6-7-(1) | 99 | Low hormone level |
| 7 | Skin symptoms. <i>DREAM</i> : Very dynamic, ambivalence toward brother. Identification of brother and son. Death wish. Exaggeration of her suffering | Heterosexual tendency. Aggression. Narcissism. Aggression directed toward self | Estrogen. Premenstrual | 6-7-(1) | | Low hormone level |
| 8 | Depressed. "No self-esteem at all." <i>DREAM</i> on night of 6th or 7th. Flying with sister. Sister crashes, patient comes down without hurting herself. Ambivalence regarding sister | | | 7-1-2 | 98.8 | Low hormone level |
| 9 | <i>DREAM</i> : Wife of father imago is "dull" and does not gratify patient's demands. Sister is a better person than she is. Feels nervous, depressed | Dependence. Mother conflict | Low hormone level | 7-1-2 | 98.4 | Low hormone level |
| 10 | Menstrual flow started this morning. Felt dirty, could not stand odor of her body. <i>DREAM</i> : Reaction to this feeling: swimming, cleanliness. Inferiority feeling—being only a dirty child; social inferiority. Her aggressive wishes are projected to her son. Son kills her. Identification with son whom she treats as she wanted to be treated | Mother-child conflict. Defense against menstruation | Low hormone level | 7-1-2. Few R.B.C. | 98.2 | Menstrual |

TABLE 19

January 11—February 7

CASE I, CYCLE VIII

Normal Ovulative Cycle. (See premenstrual phase.)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|---|---|-------------------------------------|------------------|--|
| Jan. 11 | Very talkative. Everything is clearer. Homosexual transference. Still menstruating; menstruation is injury as punishment for masturbation | Homosexual tendency | Estrogen | No smear | 98 | |
| 12 | DREAM: Heterosexual desire. Guilt feelings. Fear of being watched | Heterosexual tendency | Estrogen | (7) 1 (2) | 98.3 | Low hormone level. Incipient estrogen |
| 13 | Wants to be attractive to men. Defense against own masculine tendencies. Jealous of mother-son relationship | Heterosexual tendency | Estrogen | 1-2-3 | 98 | Incipient estrogen |
| 14 | Restless. Very strong heterosexual tendency. Incorporation of penis. Talks about sexual experiences. Fear of punishment | Heterosexual tendency | Estrogen | 2-3-4 | 98.4 | Increasing estrogen |
| 15 | DREAM: Projection of guilt because of oral incorporative (sexual) tendencies. Very irritable. Aggressive toward analyst | Heterosexual tendency. Oral incorporation | Estrogen and progesterone. Preovulative | (2) 3-4-(5) | | Estrogen. Minimal progesterone. Preovulative |
| 16 | Irritable. Ambivalence and sudden aggressive impulse against child. Tired, difficult breathing, burning sensation in vagina. DREAM: Identification with a very precocious child who feels superior to teacher=analyst | Heterosexual tendency. Relationship to child. Narcissism | Estrogen. Progesterone | 3-4-5 | 98.4 | Estrogen and minimal progesterone |
| 17 | Feels dizzy. DREAM: Hostile wish toward Mother. Mother is insane. Then identification with insane mother. Fear of punishment because of hostile tendency. Strong sexual urge | Heterosexual tendency. Mother-conflict | Estrogen. Progesterone | 3-4-(5) | 97.8 | Estrogen. Minimal progesterone |
| 18 | Very strong sexual urge. Compulsive wish to touch the penis. Masochistic attachment to father—spite reaction. Masculine identification but "I did not trust the man within me." DREAM: Heterosexual desire; narcissistic reaction | Heterosexual tendency. Narcissism | Estrogen. Progesterone | 3-4-(5) | 97.8 | Increased estrogen. Minimal progesterone |
| 19 | DREAM: Oral receptive: wants to take food without paying for it. Prostitution tendency. Jealousy of sister. Heterosexual relation. Prostitution tendency projected to sister | Heterosexual tendency. Oral receptive tendency | Estrogen. Progesterone. Preovulative | 3-4-(5) | 97.8 | Increased estrogen. Minimal progesterone |
| 20 | Many symptoms: perspiration, irritation of rectum. Prostitution fantasy. Wants to have all freedom: sexual and oral receptive | Heterosexual tendency. Oral receptive tendency | Estrogen. Progesterone. Preovulative | 3-4-5 | 98 | Increased progesterone Estrogen |
| 21 | Becomes angry and hostile to all authority because it interferes with her "freedom." Repressed prostitution tendency. "Freedom of child." Stealing | Heterosexual and oral receptive tendencies | Estrogen. Progesterone. Preovulative. | 4-5 | 97.6 | Estrogen. Progesterone, like ovulative |
| 22 | DREAM: Mostly forgotten. Fragment has homosexual content. Very excited; wants to pull on penis. Incorporation; aggressive | Heterosexual tendency. Aggression. Incorporative tendency | Estrogen. Progesterone. Preovulative. | 4-5 | | Ovulation (?) |
| 23 | Feels weak "like a baby"; "My hands look washed out." "I ate a great deal, slept a great deal" | Identification with child | Postovulative | 4-5-6. More aggregation, folding | 98.4 | Estrogen. Progesterone dominant. Postovulative |
| 24 | DREAM: 1) Identification with son. Proud of son. 2) Hostile impulse toward pregnancy. Conscious of vagina and rectum. Wish to urinate. Wish to have diarrhea | Eliminative tendency. Defense against pregnancy | Progesterone decline | 5-6-(7) | 98.6 | Progesterone decline |

CASE I, CYCLE VI—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|---|-------------------|------------------|---|
| Dec. 1 | Feels irritable, sleepless. <i>DREAM</i> : Heterosexual transference. Genital wish is hidden—vagina—rectum | Anal regression. Heterosexual tendency | Estrogen and progesterone decline | 6-7-1 | 98.8 | Low hormone level |
| 2 | Pain in abdomen. Diarrhea. Restless, lonesome, dependent on analyst, inferiority feelings, recollection of "humiliating experiences." Increasing heterosexual desire. Talks about the "extremes of feelings." Diarrhea after analytic session | Dependence. Negative narcissism. Heterosexual desire. (conscious) | Decline of progesterone. Increased estrogen. Premenstrual | 7-1-2 | 99 | Increased estrogen. Premenstrual |
| 3 † | Coitus last night, feels better. Very speedy speech. She repeats all the conflicts: Heterosexual transference, oedipus wish, self impregnation, masturbation, pregnancy as punishment for masturbation, for sexual guilt, etc. | Heterosexual tendency and impregnation tendency | Estrogen and progesterone (like post-ovulative) | 7-1-2-(3) | 99 | Slight increase in estrogen |
| 4 | <i>DREAM</i> : Satisfaction with female body. Inferiority feelings about female genitals. Great awareness and curiosity about female genitals. Homosexual relation to sister. Heterosexual tendency projected to sister | Narcissism. Homosexuality. Marked heterosexual tendency | Progesterone dominant. Estrogen. Premenstrual | 6-7-1 | 99 | Decline in estrogen and in progesterone |
| 5 | Paranoid reaction, then obsessive singing. <i>DREAM</i> : Identification with analyst. Wish to have male analyst. Passive, masochistic attitude toward male analyst | Heterosexual tendency | Estrogen. Premenstrual | 7-1 | 99 | Low hormone level |
| 6 | Critical, irritable, negativistic. Has the feeling the house is dirty. Association: Heterosexual material connected with brother. Sex experiences of childhood | Anal regression. Hostility. Heterosexual tendency on infantile level | Low hormone level. Premenstrual | 6-7-(1) | 99 | Low hormone level |
| 7 | Skin symptoms. <i>DREAM</i> : Very dynamic, ambivalence toward brother. Identification of brother and son. Death wish. Exaggeration of her suffering | Heterosexual tendency. Aggression. Narcissism. Aggression directed toward self | Estrogen. Premenstrual | 6-7-(1) | | Low hormone level |
| 8 | Depressed. "No self-esteem at all." <i>DREAM</i> on night of 6th or 7th. Flying with sister. Sister crashes, patient comes down without hurting herself. Ambivalence regarding sister | | | 7-1-2 | 98.8 | Low hormone level |
| 9 | <i>DREAM</i> : Wife of father imago is "dull" and does not gratify patient's demands. Sister is a better person than she is. Feels nervous, depressed | Dependence. Mother conflict | Low hormone level | 7-1-2 | 98.4 | Low hormone level |
| 10 | Menstrual flow started this morning. Felt dirty, could not stand odor of her body. <i>DREAM</i> : Reaction to this feeling: swimming, cleanliness. Inferiority feeling—being only a dirty child; social inferiority. Her aggressive wishes are projected to her son. Son kills her. Identification with son whom she treats as she wanted to be treated | Mother-child conflict. Defense against menstruation | Low hormone level | 7-1-2. Few R.B.C. | 98.2 | Menstrual |

TABLE 19

January 11—February 7

CASE I, CYCLE VIII

Normal Ovulative Cycle. (See premenstrual phase.)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|---|---|----------------------------------|------------------|--|
| Jan. 11 | Very talkative. Everything is clearer. Homosexual transference. Still menstruating; menstruation is injury as punishment for masturbation | Homosexual tendency | Estrogen | No smear | 98 | |
| 12 | DREAM: Heterosexual desire. Guilt feelings. Fear of being watched | Heterosexual tendency | Estrogen | (7) 1 (2) | 98.2 | Low hormone level. Incipient estrogen |
| 13 | Wants to be attractive to men. Defense against own masculine tendencies. Jealous of mother-son relationship | Heterosexual tendency | Estrogen | 1-7-3 | 98 | Incipient estrogen |
| 14 | Restless. Very strong heterosexual tendency. Incorporation of penis. Talks about sexual experiences. Fear of punishment | Heterosexual tendency | Estrogen | 2-3-4 | 98.4 | Increasing estrogen |
| 15 | DREAM: Projection of guilt because of oral incorporative (sexual) tendencies. Very irritable. Aggressive toward analyst | Heterosexual tendency. Oral incorporation | Estrogen and progesterone. Preovulative | (2) 3-4-(5) | | Estrogen. Minimal progesterone. Preovulative |
| 16 | Irritable. Ambivalence and sudden aggressive impulse against child. Tired, difficult breathing, burning sensation in vagina. DREAM: Identification with a very precocious child who feels superior to teacher=analyst | Heterosexual tendency. Relationship to child. Narcissism | Estrogen. Progesterone | 3-4-5 | 98.4 | Estrogen and minimal progesterone |
| 17 | Feels dizzy. DREAM: Hostile wish toward Mother. Mother is insane. Then identification with insane mother. Fear of punishment because of hostile tendency. Strong sexual urge | Heterosexual tendency. Mother-conflict | Estrogen. Progesterone | 3-4-(5) | 97.8 | Estrogen. Minimal progesterone |
| 18 | Very strong sexual urge. Compulsive wish to touch the penis. Masochistic attachment to father—spite reaction. Masculine identification but "I did not trust the man within me." DREAM: Heterosexual desire; narcissistic reaction | Heterosexual tendency. Narcissism | Estrogen. Progesterone | 3-4-(5) | 97.8 | Increased estrogen. Minimal progesterone |
| 19 | DREAM: Oral receptive: wants to take food without paying for it. Prostitution tendency. Jealousy of sister. Heterosexual relation. Prostitution tendency projected to sister | Heterosexual tendency. Oral receptive tendency | Estrogen. Progesterone. Preovulative | 3-4-(5) | 97.8 | Increased estrogen. Minimal progesterone |
| 20 | Many symptoms: perspiration, irritation of rectum. Prostitution fantasy. Wants to have all freedom: sexual and oral receptive | Heterosexual tendency. Oral receptive tendency | Estrogen. Progesterone. Preovulative | 3-4-5 | 98 | Increased progesterone. Estrogen |
| 21 | Becomes angry and hostile to all authority because it interferes with her "freedom." Repressed prostitution tendency. "Freedom of child." Stealing | Heterosexual and oral receptive tendencies | Estrogen. Progesterone. Preovulative. | 4-5 | 97.6 | Estrogen. Progesterone, like ovulative |
| 22 | DREAM: Mostly forgotten. Fragment has homosexual content. Very excited; wants to pull on penis. Incorporation; aggressive | Heterosexual tendency. Aggression. Incorporative tendency | Estrogen. Progesterone. Preovulative. | 4-5 | | Ovulation (?) |
| 23 | Feels weak "like a baby". "My hands look washed out." "I ate a great deal, slept a great deal" | Identification with child | Postovulative | 4-5-6. More aggregation, folding | 98.4 | Estrogen. Progesterone dominant. Postovulative |
| 24 | DREAM: 1) Identification with son. Proud of son. 2) Hostile impulse toward pregnancy. Conscious of vagina and rectum. Wish to urinate. Wish to have diarrhea | Eliminative tendency. Defense against pregnancy | Progesterone decline | 5-6-(7) | 98.6 | Progesterone decline |

CASE I, CYCLE VIII—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|---|--------------------------------------|------------------|------------------|----------------------------------|
| Jan. 25 | Homosexual transference. Passionate homosexual need. Burning sensation in head after session. Irritable | Homosexual tendency | Progesterone | 5-6-7 | 99.2 | Slight decline in progesterone |
| 26 | Feels better, relaxed. No analytic material | | | No smear | 99 | |
| 27 | Has a cold. Positive heterosexual transference. Idea of self-impregnation by masturbation. Spite toward analyst, to try out her love | Homosexual tendency. Narcissistic. Dependence | Progesterone | 6-7 | 98.6 | Further decline in progesterone |
| 28 | DREAM: Ambivalence toward child. Forgets to take care of child. Association: Wants to be nursed. Oral dependence. Heterosexual desire. Aggressive, incorporative tendency toward penis. Pregnancy complex | Pregnancy and child conflict. Heterosexual tendency. Dependence | Progesterone. Estrogen. Premenstrual | 7-1 | 98.8 | Low hormone level |
| 29 | DREAM: 1) Heterosexual scene. 2) heterosexual desire. 3) Hostility toward mother and sisters | Heterosexual tendency. Hostility | Premenstrual | 7-1-2-(3) | 99 | Incipient estrogen. Premenstrual |
| 30 | Feels hostile, depressed, disliked. She feels "enormous." Body distended. DREAM: ambivalence toward son. Repetition of conflict with brother | Retentive tendency. Heterosexual tendency on infantile level | Estrogen Progesterone (?) | 7-1-2-(3) | 98.8 | Incipient estrogen Premenstrual |
| 31 | DREAM: Heterosexual desire projected to sister. Jealous of sister, fear of mother, who will punish her because of sexual guilt. Association: soiling herself | Heterosexual and eliminative tendencies | Estrogen. Decline in progesterone | 7-1-2-3 | 98.8 | Slight increase in estrogen |
| Feb. 1 | Looks stubborn and depressed. Need to be dependent. Toilet training. Identification with baby on anal level | Dependence. Anal regression | Progesterone decline | 7-1-2-3 | 98.8 | Slight increase in estrogen |
| 2 | Feels better. Yearning for child but fear of own ambivalent impulses | Ambivalence toward child | Low hormone level | 7-1 | 98.6 | Low hormone level |
| 3 | Feels like crying, tearful. Feels she ought to be punished for something; sorry because of her temper tantrums; deep, vague grief | Masochistic. Dependence | Low hormone level | 7-1-2 | | Low hormone level |
| 4 | Wept yesterday for long time. Feels guilty and insecure. DREAM: Identification with Negro housekeeper who endangers the baby; sexual guilt causes hostility toward child. Repetition of material about childbirth. Anal conception of childbirth | Aggression toward child, penis. Eliminative tendency (anal) | Low hormone level | 7-1 | 98.2 | Low hormone level |
| 5 | After previous analytic session menstrual flow started. DREAM: Need for punishment; feeling of loss; feels heartbroken because of abortion | Eliminative tendency | Low hormone level | No smear | 98.4 | |
| 6 | Depression. Same feeling of lack of emotion. Sorry for herself as on 3rd above | | Low hormone level | No smear | 98.2 | |
| 7 | Feels better. Still feels heavy and bloated. Heterosexual urge strong. DREAM: Mistrust of analyst. Projection. | Heterosexual | Incipient estrogen | No smear | 98.4 | |

* It is interesting to note that the psychoanalytic material during the menstrual flow indicated estrogen production more definitely than it was recognized on the vaginal smear. The next cycle sets in after the menstrual flow showing high estrogen production at the onset, on the third day the slide is already preovulatory, and on the fourth day ovulatory, indicating that there had been estrogen production during the menstrual flow, just as it was assumed on the basis of the psychoanalytic material.

TABLE 20
May 4—June 10

CASE I, CYCLE XII

Anovulatory Cycle. Two preovulatory phases.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-------|--|---|--------------------------------------|------------------|------------------|--|
| May 4 | <i>DREAM:</i> Heterosexual tendency. Lying in bed with men—a woman discovers her. Fear of woman transferred to analyst | Heterosexual tendency. Conflict with mother | Estrogen | #1-2-3 | 98.0 | Incipient estrogen |
| 5 | Feels better. Lost some weight. Tells dream of two nights ago. Associations: Brother-conflict. Narcissistic identification with child | Dependence. Heterosexual tendency | Estrogen | #1-2-3-(4) | 98.2 | Incipient estrogen |
| 6 | Pressure on epigastrium; nausea; feels sick. <i>DREAM:</i> 1) Fear of being attacked, but also fear of own prostitution tendencies. Need to get rid of mother's prohibitions: jail. 2) Homosexual play with sister. Continues to be nauseated | Heterosexual and homosexual tendencies | Estrogen | #1-2-3-(4) | 97.8 | Incipient estrogen |
| 7 | <i>DREAM:</i> Her son kills her. Great love and forgetfulness toward the child. Conflict with son. Fear of being attacked sexually | Heterosexual tendency (passive, masochistic) | Estrogen | #2-3-4 | 97.8 | Increasing estrogen |
| 8 | <i>DREAM:</i> Very disguised—not strong dynamic conflict. Wish to get rid of the child. In the background, need for sexual freedom | Heterosexual tendency | Estrogen | #2-3-4 | | Same |
| 9 | Depressed during the weekend. Urinary urgency. Talks about her infantile conflict: brother—Negro. | Heterosexual tendency | Estrogen | #3-4 | 98.0 | Increased estrogen |
| 10 | Depressed, spiteful, nervous, restless full of longing for love. She is attacking everybody, ironically. Recollection: father spanking her sister, child being beaten. "I feel I am beautiful, I am hungry, I am not afraid of love" | Heterosexual tendency. Narcissism | Estrogen. Progesterone. Preovulatory | #3-4-(5) | 97.8 | Estrogen. Minimal progesterone. Preovulatory |
| 11 | <i>DREAM:</i> 1) Fear of being attacked. 2) Woman doing acrobatic stunts, suppressed pain because she was an actress. 3) The experience of this masochistic scene erotised like a sado-masochistic sexual scene. 4) About childbirth; ambivalence toward child, self-consciousness about the process of delivery | Heterosexual tendency. Exhibitionistic tendency. Birth—genital eliminative tendency | Estrogen. Progesterone. Preovulatory | #3-4-(5) | 97.6 | Estrogen. Minimal progesterone. Preovulatory |
| 12 | The "stunts" in the dream were motivated by real pains in shoulder. Associations: the wish to be punished; rage and narcissistic defense when it really happens. Narcissistic, exhibitionistic tendencies. Wish to be an actress | Heterosexual tendency. Narcissism | Estrogen. Progesterone. Preovulatory | #3-4-5 | 98.0 | Estrogen Progesterone |
| 13 | <i>DREAM:</i> Heterosexual scene. Frustration. Inferiority feeling about body. Fear of criticism of hostile sister and of lover | Heterosexual tendency. Narcissism | Estrogen. Progesterone | #3-4-5 | 97.6 | Estrogen Progesterone |
| 14 | Pain all over mostly in left arm. Gas in abdomen. Hostile toward husband. Impregnation fantasy. Feels about to start menstruating. Penis envy. Temper tantrum. Sexual ecstasy. <i>DREAM:</i> Heterosexual tendency. Symbolism | Heterosexual tendency. Impregnation tendency. Narcissism | Estrogen. Progesterone. Preovulatory | #3-4-5 | 97.6 | Estrogen plus Progesterone |
| 15 | Long <i>DREAM:</i> 1) Dependence on analyst. Ambivalence. Depression because she lost her child. Great longing—anxious to find the child. 2) Guilty feeling because of her talk and because of her secrets. 3) Exhibitionistic tendencies | Dependence. Conflict with child. Narcissism | Progesterone. Postovulatory (?) | #4-5 | 97.8 | Progesterone dominant |
| 16 | <i>DREAM:</i> 1) Sexual relation with son; feels guilty about it. 2) About food. 3) Homosexual tendency. Feels weak, depressed; feels sorry for herself | Heterosexual tendency. Oral receptive tendency. Homosexual tendency | Estrogen. Progesterone | #4-5-(6) | 98.4 | Estrogen Progesterone |

CASE I, CYCLE XII—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|--|------------------|------------------|--|
| May 17 | Nervous. Talks very quickly. "I feel I am obsessed." Talks about father's penis, brother's penis, and his son's. She passively enjoys the influx of thoughts. She says it is "dynamic passivity." Narcissistic | Heterosexual tendency. Incorporative tendency. Narcissism | Progesterone. Estrogen | #5-6-7-(1) | 98.4 | Decline of hormones |
| 18 † | Very cheerful, hypomanic. Functions very quickly. DREAM: 1) "I saw an enormous Christmas stocking." 2) Pregnancy. 3) Primal scene in great detail; the sexual experience of woman. 4) Incorporation of breast | Awareness of female genitals. Pregnancy Oral receptive tendency | Progesterone like postovula- tive | #5-6-7-(1) | 98.4 | Same hormone level |
| 19 † | DREAM: Projection of all kinds of tendencies, chiefly awareness of body; feminine and masculine. Associations: "I am curious about life." Analysis is frustration. Becomes very angry | Narcissism. Hostility | Estrogen. Progesterone like premen- strual | #6-7-(8)-1-2 | 98.6 | Low hormone level |
| 20 † | Great antagonism expressed in anal eliminative terms. Feels nervous. "I feel pregnant." Talks about the delivery. Strong urinary urge. "I have an urge to urinate, to menstruate, to deliver, to defecate." Aggression toward baby | Eliminative tendency. Aggressive tendency | Progesterone decline | #6-7-(8)-1-2 | 98.4 | Low hormone level |
| 21 | DREAM: 1) "I was fishing in a milk bottle." 2) Pregnancy symbolism. Feels restless and depressed. Repeats her imagination that "she is disemboweled." This fantasy gave her relief | Pregnancy and birth-material. Eliminative tendency | Progesterone low level | #6-7-(8)-1-2 | 98.8 | Low hormone level |
| 22 | Idea of being "disemboweled" prevails. Very antagonistic toward analyst = mother. Cries. DREAM: Conflict about children. Pregnancy and birth symbolism. Doctor = Negro. Repetition of infantile sexual conflict. Transference. | Birth-material. Eliminative tendency. Heterosexual tendency | Progesterone, low level. Estrogen. Premenstrual | #7-1-2-(3) | 98.8 | Incipient estrogen. Premenstrual |
| 23 | DREAM: 1) Infantile soiling tendency. 2) Relationship to child. Soiling = menstruation. Eats very much. Talks about "disembowelment." Elimination of fecal masses and child | Eliminative tendency. Anal regression | Progesterone. Low hormone level | #7-1-2-(3) | 98.8 | Incipient estrogen. Premenstrual |
| 24 | DREAM: About "play-acting" Heterosexual material and oral receptive—namely, dependence | Dependence. Heterosexual tendency | Low hormone level. Estrogen incipient | #7-1-2-(3) | 98.8 | Incipient estrogen. Premenstrual |
| 25 | DREAM: Conflict with mother. Spiteful, revengeful, toward mother. Associations: Chiefly about dependence. Repeats childhood material. Hatred of mother. Incapability to nurse her child. Fantasy: handling a woman's breast | Mother-conflict. Relationship to child. Dependence. Libidinous tend- ency re breast | Progesterone. Estrogen | #6-7-1-3-(3) | | Low pro- gesterone, and estrogen |
| 26 † | DREAM: Oral receptive. Sexual curiosity. Mother = analyst permits sexual curiosity, but patient feels frustrated. Feels dirty, heavy. Vaginal odor caused the feeling of dirt. Feels full and heavy. Association: Dependence on mother and guilt | Heterosexual tendency. Anal regression. Dependence | Estrogen. Progesterone, low level | #1-2-3 | 99.0 | Estrogen |
| 27 † | Long DREAM: Dependence. Complaints against mother. Heterosexual play. Jealousy. | Dependence. Heterosexual tendency. | Estrogen. Progesterone, low level. | 1-2-3 | 98.8 | Estrogen |
| 28 | Excited, great urge to urinate. Tense. Feels heavy. Depressed. Very long DREAM: 1) Symbolic, showing dependence on analyst in various ways. Frustration on analyst in various ways. Frustration 2) Heterosexual desire. Abortions kill men's love | Dependence. Heterosexual tendency. Eliminative tendency | Estrogen. Progesterone. Premenstrual | #1-2-3 | 99.0 | Estrogen |

CASE I, CYCLE XII—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|--|------------------|------------------|----------------------------------|
| May 29 | DREAM: Fear of sickness, operation. Clear castration tendency toward herself. Homosexual feeling. Awareness of breasts | Castration tendency. Homosexual tendency | Premenstrual. Estrogen | #1-2-3-(4) | 98.8 | Increased estrogen |
| 30 | DREAM: 1) Fear of being attacked and robbed. 2) Homosexual content. Wish to be liked and narcissistic enjoyment of it | Heterosexual tendency | Estrogen | #1-2-3-(4) | | Estrogen |
| 31 | She knows that much of the material is "play-acting" and exhibitionism. Very dependent on analyst; wants to be nursed | Dependence | Low hormone level | #3-1-2-3 | | Somewhat declining hormone level |
| June 1 | DREAM: 1) Identifies herself with a criminal boy. Transference in the sense that analysis helps her as an exceptional treatment for criminal tendencies. 2) Wish to give birth. Feels hostile | Masculine identification. Dependence. Eliminative tendency | Low hormone level. Estrogen (?), low level | #8-1-2-3 | 99.0 | Same |
| 2 | Looks strict, severe. Feels irritable and aggressive. Wants to quarrel with analyst. Paranoid associations of which she is aware | Hostility | Same. Low hormone level | #7-1 | 98.8 | Low hormone level |
| 3 | DREAM: 1) About first boy friend. Critical of him. 2) Swimming | Heterosexual tendency | Estrogen | #7-1-2-3 | | Incipient estrogen |
| 4 | DREAM: 1) About being locked up. Fear. 2) Choking sensation. Both are birth symbolisms. Aware of hatred. Very weak | Eliminative tendency. Hostility | Premenstrual reaction | #(7)-2-(3) | 98.6 | Incipient estrogen |
| 5 | Long dream at night. Short dream in the afternoon. Wish to give birth and to retain the child. Also receptive wishes | Pregnancy wish. Eliminative tendency | Progesterone | #2-3 | 98.6 | Increasing estrogen |
| 6 | Feels uncomfortable, heavy, chest feels pressed. Excessive hatred as defense against dependence and passive nursing tendency. Associations about abortion | Dependence. Eliminative tendency | Low hormone level. Premenstrual reaction | #2-3-4 | 98.2 | Estrogen |
| 7 | Menstrual flow started this morning. Feels feverish, tense, and heavy. Headache. Wish to be loved. Longing | Dependence | Low hormone level. Premenstrual reaction | #7-8-1 R.B.C. | 98.2 | Low hormone level. Menstrual |
| 8 | Very restless. DREAM: No confidence. No analytic material | | | No smear | 98.0 | |
| 9 | Abdominal distention. Looks pregnant. Attitude toward her own breast. Feels quite well. Craving for sweets | Active and passive nursing tendency. Pregnancy wish | | No smear | 98.2 | |
| 10 | Angry. Reaction to dependence. Still talks about wish to be pregnant | Dependence. Pregnancy wish | | #7-1 R.B.C. | 98.6 | Low hormone level |

TABLE 21

January 13—February 14

Bimodal Cycle. Two ovulations.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|--|---|---|------------------|---|
| Jan. 13 | Silent, spiteful. Felt restless and depressed yesterday. Suicide is the only solution because she cannot bear to be dependent and cannot stand the truth about herself. Pleads for sympathy. Aggression toward sister turned toward herself. This is more actual and from the state of analysis influenced material therefore no evaluation and prediction was made | Defense against dependence | | #2-3 bacteria invasion | 98.1 | Incipient estrogen |
| 14 | No analytic material | | | #2-3 Same and secretion | 97.9 | Incipient estrogen |
| 15 | DREAM: Mainly reaction to analytic situation. Afraid that analyst will not bear her aggressions and will reject her | Defense against dependence | | #2-3-4-(5) | 98.4 | Increased estrogen. Minimal progesterone |
| 16 | DREAM: 1) Reconciliation with analyst. Willing to accept analyst's teaching that child is not identical with penis. 2) Identification with man. Associations: reconciliation with analyst = mother. Mona Lisa = Analyst = patient. Perfect narcissism. Headache | Heterosexual tendency. Narcissism | Estrogen and progesterone | #2-3-4-(5) minimal aggregation | 98.5 | Increased estrogen. Minimal progesterone |
| 17 | Very irritable. Headache. DREAM: Wearing fine clothes. Morning. Wish to be loved by father. Rejection. Aggression toward men and women. Aggression then turned toward herself | Heterosexual tendency. Narcissism. Aggression | Estrogen. Progesterone. Like preovulatory tension | #2-3-4-(5) | 98.2 | Increased estrogen. Minimal progesterone |
| 18 | DREAM: 1) Has to expose herself. 2) Urinary symbolism instead of sexual symbolism | Heterosexual tendency (regression) Exhibitionistic tendency. Narcissism. Eliminative tendency | Estrogen. Progesterone decline | #3(4)-5-6-7 degeneration and aggregation | 97.8 | Decline in estrogen. Increasing progesterone |
| 19 | DREAM: Quarrel with sister = analyst. Escape from quarrel into unconsciousness. Associations: Morning. Yesterday after two days of headaches "I came to life." Became alert. Repetition of sister-transference during the session | Hostility toward sister = analyst. Defense against homosexual tendency | Estrogen (?) Progesterone | #(3-4)-5-6-7 Aggregation. Occasional. R.B.C. | 98.4 | Decline in estrogen. Increasing progesterone |
| 20 | Felt tense. Afraid of mother. Mother will kill patient as patient would kill her child | Aggression. Dependence | Estrogen. Progesterone | #3-4-5-6 | 98.4 | Estrogen. Progesterone |
| 21 | DREAM: Repetition of the conflict discussed previous day. Conflict between mother and daughter. Heterosexual desire | Heterosexual tendency. Aggression. Mother-conflict | Estrogen. Progesterone. Preovulatory tension | #4-5 minimal folding | 98.0 | Like ovulative. Estrogen. Progesterone |
| 22 | DREAM: Conflict with analyst = teacher = mother. Afraid of mother. Conflict with child. Wants to save herself by hiding herself, by going back into the womb. Fear of phallic mother. Woman in the dream had penis | Passive libidinous tendency. Womb symbol. Mother-conflict | Postovulatory. Progesterone | #4-5-6 | 98.4 | Like postovulatory. Estrogen. Progesterone |
| 23 | Silent, rather stubborn; analysis of previous dreams. Material is not characteristically postovulatory. Influenced by previous days' dreams | | | #4-5-6 | 97.6 | Postovulatory. Estrogen. Progesterone |
| 24 | DREAM: Homosexual tendency. Sister is substitute for father. Associations: Impregnation. Pregnancy. Guilt toward mother because of oedipus desire | Impregnation tendency. Mother-conflict. Heterosexual tendency on oedipus level | Progesterone. Estrogen. Postovulatory | #4-5 | 98.1 | Postovulatory. Estrogen. Progesterone |

CASE I, CYCLE XXI—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|---|---|---------------------|------------------|---|
| Jan. 25 | DREAM: 1) She is motherly toward a little boy. 2) Need help for a child | Motherliness | Progesterone | #5-6 Aggregation | 98.5 | Progesterone dominant |
| 26 | DREAM: Death wish toward mother. She is happy | Mother-conflict | Progesterone decline | #5-6 | 97.9 | Progesterone dominant |
| 27 | No analytic material | | | #5-6 | | Progesterone dominant |
| 28 | DREAM: Hatred and competition toward women. Oral receptive and dependent tendency toward women | Aggression toward women. Dependence | Progesterone decline | #5-6-7 | 98.4 | Progesterone decline |
| 29 | DREAM and associations: Mother plus child relationship. Wants to be good mother. Oral deprivation | Mother-conflict, relationship. Dependence | Same | #5-6-7 | 98.4 | Progesterone decline |
| 30 | DREAM: A Negro killed a blond woman. Masochistic fantasy. Guilt because of her homosexuality and because of aggressive wishes toward child | Sadistic and masochistic tendency | Estrogen. Progesterone, (low level?) Premenstrual | #6-7-1 | 98.4 | Low hormone level |
| 31 | DREAM: 1) Depreciation of husband. 2) Relationship to child. Hostile. 3) Oral receptive tendency. 4) Heterosexual fascination of her first boy friend. Tension decreased, compared with previous day. Material less hostile, more libidinous | Mother-Child relationship. Heterosexual tendency | Estrogen. Progesterone | #4-5-6 | 98.8 | Luteal phase Second ovulation (?) |
| Feb. 1 | Obviously relaxed. In the dream positive admiring feelings toward analyst. Feels loved and loving | Narcissistic identification | Progesterone like post- ovulative | #4-5-6 | 98.6 | Estrogen. Progesterone |
| 2 | No analytic material | | | #5-6 | 98.8 | Postovulative. Progesterone |
| 3 | Analysis of previous dream material. Feels rejected because analyst cancelled hour on previous day | | | #5-6 | 98.9 | Postovulative. Progesterone |
| 4 | DREAM: Mother is nice, quiet, productive, helpful person. Mother feeds her and she has interest in her clothes and rooms. DREAM about death wish toward Analyst's son = brother | Dependence (death wish) toward brother | Low hormone level | #6-7-(1) | 98.4 | Low hormone level |
| 5 | DREAM: Love toward Negro. Refuses sexual love because of "aesthetics." Negro is transformed in her son | Heterosexual tendency | Estrogen Premenstrual | #6-7-(1) | 99.2 | Low hormone level |
| 6 | No analytic material | | | #7-1-2 | 99.4 | Incipient estrogen. Premenstrual |
| 7 | DREAM: Excessive flow. On awakening she is surprised that she does not menstruate. Desire to have a good dependable mother | Dependence. Eliminative tendency | Low hormone level | #1-2-3-(8) | 99.0 | Low hormone level. Estrogen |
| 8 | DREAM: 1) Heterosexual content: more understanding and motherly toward man than sexually demanding. 2) Pregnancy and birth symbolism | Heterosexual tendency. Motherliness. Birth symbolism | Estrogen low level. Premenstrual | #1-2-3-(8) | 99.0 | Low hormone level. Estrogen |
| 9 | Previous day: nausea, headache. Conflicting feelings about analysts | | Low hormone level | #7-1-2 | 98.8 | Incipient estrogen |
| 10 | DREAM: Identification with illegitimate, rejected girl, sexual guilt | Dependence. Heterosexual tendency | Low hormone level. Estrogen | #7-1-2 | 99.3 | Incipient estrogen |
| 11 | Breathing difficulties. DREAM: About father. Unkempt old man. Guilt and sympathy | Heterosexual tendency | Premenstrual reaction. Low hormone level Estrogen ? | #7-1-2-(3) | | Slightly more estrogen |

CASE I, CYCLE XXI—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--------------------------------|-------------------|------------------|------------------|-------------------|
| Feb 12 | Menstrual flow started. <i>DREAM</i> : Guilt because of "murderous" wishes. Depreciative identification with feeble minded girl, irresponsible; expiation | Inferiority feeling. Hostility | Low hormone level | #7-1 Menstrual | 98.9 | Menstrual |
| 13 | <i>DREAM</i> : Ambivalence about her relationship to women. Critical toward analyst. Grieves about her relationship to analyst | Dependence. Hostility | Low hormone level | #7-1 Menstrual | 98.5 | Menstrual |
| 14 | <i>DREAM</i> : Heterosexual and sadistic desire. Sadistic toward penis | Heterosexual tendency | Estrogen | #7-1 Menstrual | 98.0 | Menstrual |

TABLE 22

November 25—December 11

CASE II, CYCLE III

Ovulative Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|---|---|----------------------|------------------|---|
| Nov. 25 | No analytic session. Patient seriously resented analyst's interpretation and criticism in last session | | | 7-1-2 cornification | | Incipient estrogen |
| 26 | Possibly her reaction to last analytic hour is responsible for change in the dream material. <i>DREAM</i> : Identification with little dependent child who needs to be fed. Identification with mother who cares for child. Associations: defense against analyst. Wish to regress to mother but mother is always sick, and not dependable | Dependence. Hostility | Low hormone level | 7-1 | | Low hormone level |
| 27 | Coitus twice, no orgasm | | | 1-2-3 | 98.2 | Incipient estrogen |
| 28 | | | | Red blood cells | 98.1 | |
| 29 | <i>DREAM</i> : Transference, masochistic expectations, fear of analyst. She then submissively accepts the criticism of analyst. Association: Fear of analyst. Erotization of analytic situation (Masochistic father transference) | Heterosexual tendency on masochistic level. | Estrogen. | 1-2-3-(4) | 98.3 | Increased estrogen |
| 30 | Continuation of previous day's material. Dramatization of suffering—masochistic need to feel abandoned, to be excluded from pleasure and deprived of pregnancy | Heterosexual tendencies on masochistic level Pregnancy | Estrogen Progesterone | 2-3-4 | 97.9 | Increased estrogen |
| Dec. 1 | <i>DREAM</i> : Castration tendency. Superiority over man who is impotent because of masturbation. Association: Last promiscuous experience. Sexual curiosity; disappointment | Heterosexual tendency | Estrogen | 3-4-(5) | 97.8 | Increased estrogen. Minimal progesterone |
| 2 | Feels bad, extremely sensitive; cries easily during the analytic session. Defense against mother. "I don't want her to be that close to me . . . I have a feeling in my vulva when my mother talks about intimate things" | Regression of heterosexual tendencies. Homosexual tendency toward mother | Estrogen. Progesterone. Ovulative | 3-4-5 occ. R.B.C. | 97.6 | Estrogen. Progesterone. Ovulation |
| 3 | Very passive, submissive dream. Association: "Humpty dumpty sitting on the wall." Relaxed, playful | Relaxation. Acceptance of feminine role | Postovulative | 4-5 | 97.9 | Estrogen. Progesterone |
| 4 | Discussion of mother-conflict. Competition with mother. Analyst refuses her demands. Increased aggression | Mother-conflict. Receptive tendency | Progesterone | 4-5-6 | 97.8 | Estrogen. Progesterone. Postovulative |
| 5 | No analytic material | | | 5-6 | 99.1 | Luteal phase |
| 6 | No analytic material | | | 5-6 Desquamation | 98.2 | Luteal phase |

CASE II, CYCLE III—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|--|--|--|------------------------|------------------|--------------------------------------|
| Dec. 7 | No dream. Discusses actual problems. It is possible that her demanding attitude and tension cause conflict situations, but the record is not detailed enough to make any conclusion as to hormonal state | | | 5-6-7 | 98.5 | Slight decline in progesterone |
| 8 | DREAM: 1) Heterosexual transference wish. Very narcissistic, satisfactory feelings of own body (like postovulatory). 2) Competition for analyst's love. Sibling rivalry. Birth symbolism. Associations: masochistic attachment re father; wish to be loved | Narcissism. Pregnancy material. Heterosexual tendency on oedipus level | Progesterone. Estrogen. Premenstrual | 6-7-1 | 98.4 | Low hormone level |
| 9 | DREAM: 1) Incestuous relation to father; incorporative tendency; eating up penis—child. The incorporative tendency also projected to father. Identification with father. She has penis, father castrates her. 2) Homosexual tendencies, jealousy. Associations: Active sexual play with younger brother. Guilt. Wish to have father's child. Sadness | Heterosexual tendencies. Incorporative tendency. Homosexual tendency. Pregnancy wish | Estrogen. Progesterone. Premenstrual | 7-1-2 | 98.4 | Incipient estrogen. Premenstrual |
| 10 | Depressed, unsatisfied, complains about husband. Heterosexual desire | Heterosexual tendency | Estrogen | 7-1-2 | 98.7 | Same |
| 11 | Upset, negativistic. Competition with mother for her own child. Fear of mother. Talks about her relationship to men | Hostility. Mother-conflict. Heterosexual tendencies | Estrogen on low level. Premenstrual reaction | 7-1. Occasional R.B.C. | 98.5 | Low hormone level. Late premenstrual |
| 12 | No analytic session | | | 7-1 Occasional R.B.C. | 98.7 | Same |
| 13 | No analytic session | | | 7-1 | 98.7 | Same |
| 14 | No analytic session | | | Red blood cells | 98.5 | Menstrual flow |
| 15 | Upset. She has actual conflicts with her mother, who tells her that she is a hateful child. Competition with mother for her child. Depressed, cries, DREAM: Wish to be accepted by "outstanding women." Wish to reconcile with mother. Fear of being rebuked. Because of inability to regain mother's love she turns to men; cries | Regression. Mother-child conflict. Dependence | Low hormone level | 7 | | Low hormone level |
| 16 | Depressed, cries easily during the hour. DREAM: Inferiority feelings because of her actual sex wishes. Actual sexual relation to son, reverse of her incest relation to father. Cries, depressed | Negative narcissism. Regression of heterosexual tendencies. | Premenstrual | 7 | | Low hormone level |
| 17 | DREAM: Extreme oral demands. She is unsatisfiable in her own person as well as for her son. She feels hunger in oral and genital sense | Oral and genital receptive tendencies | Estrogen. Premenstrual reaction | 7-1-2 More R.B.C. | | Incipient estrogen. Menstrual |
| 18 | Menstrual flow started. No analytic material | | | 7-1-2 More R.B.C. | | Incipient estrogen. Menstrual |
| 19 | No analytic session. She feels better since flow started. No longer angry with mother, can talk to her, etc. | Relaxation. Reconciliation with mother | Low hormone level | 7 | | Low hormone level |
| 20 | Again tense, talks about her retentive tendencies. She is disgusted with herself for her attitudes which are the same which she hates in her mother | Identification with mother on level of inferiority | Low hormone level | No smear | | |
| 21 | Feels tense. DREAM: Heterosexual desire. Romantic wish to start marriage again in right way | Heterosexual tendencies | Incipient Estrogen | No smear | | |
| 22 | No analytic material | | | No smear | | |

TABLE 23

January 15—February 11

CASE II, CYCLE V

Bimodal Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|---|--|------------------|------------------|---|
| Jan. 15 | Patient has cold. No analytic material | | | No smear | | |
| 16 • | <i>DREAM</i> : Identification with mother in passive tendency. Wish to reconcile with mother. All effort is concentrated to make mother understand and love her, but it is not possible. Depression. She is actually ill, therefore, the dominant emotional tendency | Dependence on mother | Low hormone level | 1-2-3 R.B.C. | 99.4 | Incipient estrogen. (Upper respiratory infection) |
| 17 | <i>DREAM</i> : The same dream content as previous dream, perhaps the same night. Patient is still ill; is at home. Her mother is in her home. It is possible that the fever causes this dependent dream | Same | | 1-2-3 R.B.C. | 100.4 | Same |
| 18 | <i>DREAM</i> : Heterosexual transference. Scopophilic tendency expressed toward analyst-father. Heterosexual gratification; fear of orgasm | Heterosexual tendency | Estrogen | 2-3 | 98.5 | Increasing estrogen |
| 19 | Report of previous dreams and her sickness. 1) Complaints about mother who did not satisfy her needs of love and dependence even when she was a child and sick. 2) Heterosexual experiences | Heterosexual tendency. Dependence | Estrogen and progesterone | 2-3-(4-5) | 98.2 | Increasing estrogen. Minimal progesterone |
| 20 | Patient sick—had a cold | | | 3-4-(5) | 97.9 | Increased estrogen and progesterone |
| 21 | | | | 3-4-(5) | 98.0 | Same |
| 22 | | | | 3-4-(5-6-7) | 98.0 | Slight decline of progesterone |
| 23 | | | | 4-5-(6-7) | 98.6 | More progesterone |
| 24 † | During this whole period she was irritable and unhappy. She had a disappointing experience. Felt rebuked by a man (1/21). Since then her aggression increased; rage toward analyst during this session | Heterosexual tendency. Aggression | Preovulatory Estrogen | 4-5-6 | 98.4 | Estrogen. Progesterone |
| 25 | <i>DREAM</i> : Transference dream. 1) The content is admiration of analyst. The opposite of the rage in the previous hour. Passive dependent love. 2) Impregnation wish. Quick associations about transference, her curiosity projected: fear of being observed—wish to hide, to withdraw "to bungalow"=womb | Heterosexual tendency. Receptive tendency. Passive libido tendency. Relaxed | Estrogen, progesterone. Postovulatory | 4-5 | 98 | Estrogen and progesterone (like ovulatory) |
| 26 | No analytic session | | | 4-5-6-7 | 98.8 | Estrogen. Progesterone decline |
| 27 | No analytic session | | | 4-5-6-7 | 97.7 | Same |
| 28 | Analytic session, but record is so scarce that it is impossible to make any conclusions | | | 5-6-7 | 98.4 | Progesterone dominant |
| 29 | No analytic material. Sex experience | | | 5-6-7 | 98.5 | Progesterone dominant |
| 30 | No analytic material | | | 6-7-1 | 98.6 | Low hormone level |
| 31 | Great sexual need. She acts out infantile masochistic fantasies. Beyond this superficial fantasy, sex life, the conflict with mother goes on; demands on mother. Complains about her incapability. She is better person than mother and can give more to the father than mother did | Heterosexual tendency. Dependence and competition with mother | Progesterone and estrogen | 6-7-1-2 | 98.3 | Decline of progesterone. Incipient estrogen. Premenstrual |

CASE II, CYCLE V—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|---|---|------------------|------------------|----------------------------------|
| Feb. 1 | Anxious, apprehensive. She feels everything is wrong; rebellious, cries. Aggressive toward mother. Hatred and guilt toward mother. Mother is not giving, but demanding. Sibling rivalry | Receptive tendency. Mother-conflict. Heterosexual tendency on oedipus level | Premenstrual reaction. Decline in progesterone. Estrogen on low level | 7-1-2 | 98.5 | Incipient estrogen. Premenstrual |
| 2 | Feels better. Dependence on mother. <i>DREAM</i> : Masochistic concept of love. Coitus = murder. Association: Her disappointment; father disappointed her. She gave up to be feminine because husband disappointed her; she cannot adjust to marriage | Dependence. Heterosexual tendency | Estrogen. Premenstrual | (7)-1-2 | 98.7 | Incipient estrogen. Premenstrual |
| 3 | Angry, furious. <i>DREAM</i> : 1) Sewage = fertilizer—impregnating material—semen—urine—dirt. 2) Masculine identification. Association: "I had the male sex feeling" | Heterosexual tendency on anal level. Masculine identification | Low hormone level. Estrogen on low level. Premenstrual reaction | C 7-1 | 98.6 | Hormone decline |
| 4 | Coitus. She feels guilty; but the whole material is heterosexual | Heterosexual tendency | Estrogen | C 7-1-2 | 98.8 | Incipient estrogen |
| 5 | No analytic material | | | 7-1 | 98.6 | Decline |
| 6 | No analytic material | | | 1-2-3 | 98.8 | Incipient estrogen |
| 7 | Heterosexual desire increases. Satisfactory coitus. She is not only pleased, but very proud. Competition with mother for love of father. She can be satisfied only when man's love means her victory over another woman | Heterosexual tendency | Estrogen | 2-3-(4) | 98.6 | Increased estrogen |
| 8 | Hysterical behavior during analytic session. Exhibitionistic, narcissistic, proud. Menstrual flow started but patient did not notice the flow (during the whole period, it remained unnoticed by patient) | Narcissism. Heterosexual tendency | Like ovulative. Estrogen. Progesterone | C 2-3-4 blood. | 98.4 | Increased estrogen. Menstrual |
| 9 | Nervous, irritable, demanding. She feels that she is an unpleasant person. Reaction to her extremely narcissistic behavior; guilt and depression. In spite of this insight she is aggressive toward analyst | Heterosexual tendency. Narcissism. Aggression | Decline in progesterone and estrogen | 2-3-4-5 | 98.5 | Estrogen and progesterone |
| 10 | No analytic material | | | No smear | 98.2 | |
| 11 | Headache, depression. No characteristic material | | Low hormone level | No smear | 98.2 | |

TABLE 24
May 15—June 16

CASE VII, CYCLE III

Anovulatory Cycle. Sudden decline of hormone.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|---|---|------------------------------------|------------------|-----------------------------------|
| May 15 | Menstrual flow ceased on 14th. Extreme desire to masturbate. Wants to fight it. Craving for food develops and craving for masturbation | Sexual tendency. Oral receptive tendency | Incipient estrogen | 7-1-(2) | 98.1 | Incipient estrogen |
| 16 | DREAM: 1) Fear of death—sexuality. 2) Coitus per anum with a man. Association: She is a man; has homosexual experience with another man. Sensation of having penis. Curiosity about own genital organs. No eating compulsion | Heterosexual tendency | Estrogen | 7-1. Debris | 97.6 | Estrogen decline |
| 17 | No eating compulsion. DREAM: 1) Transference; analyst-mother. Sexual guilt deforms her and her body is dead. 2) Her mother chokes her because of her relationship to brother. Association: Guilt because of anal eroticism and because of penis envy. Identification with brother | Heterosexual tendency. Anal eroticism | Estrogen | 1-2-3. Leukocytic invasion | 98.1 | Increasing estrogen |
| 18 | Very angry after previous session. Thought analyst had made a derogatory remark about her to some one. Hatred. "I thought of beating off the analyst." DREAM: Scopophilic, seeing something great, dangerous—perhaps female body | Masculine identification. Homosexual tendency. Aggression | Estrogen | 2-3-4. Extreme leukocytic invasion | 98.5 | Increasing estrogen |
| 19 | Very resistant. Talks slowly about her anger toward analyst. "I wanted to go into a terrific rage; I wanted to cry. At the same time I had the feeling I had a penis." Homosexual transference, frustration, anger | Masculine identification | Estrogen | 3-4. Abundant mucus | 97.7 | Estrogen |
| 20 | Depression lifted, no longer tense or angry. Analysis of masculine identification and fear of mother | Heterosexual | Estrogen | 3-4 | 97.7 | Estrogen peak. Preovulatory |
| 21 | DREAM: Analyst gives her cigarettes which mother did not permit. Womb symbolism. Oral receptive. Cigarettes cure her weight—substitute for food | Oral receptive tendency. Reconciliation with mother on basis that mother permits sexual gratification | Progesterone, like post-ovulatory. Estrogen | 4-5-6-7. Desquamated debris | 97.8 | Estrogen. Progesterone |
| 22 | No analytic session | | | 6-7-1 | 98.0 | Progesterone. Low hormone level |
| 23 | Association to the dream of 21st: Analyst = protection; offers protection = womb, but analyst is also punishing person because she will punish patient for sexual play with brothers and because of penis wish. Eats more but no eating "jag" | Dependence. Guilt feeling because of incest. Mother relationship dominant. | Decline in progesterone. Low hormone level | 6-7-1 | 98.0 | Progesterone. Low hormone level. |
| 24 | DREAM: "I was pregnant, and during delivery the doctor hammered the pelvis with his fists." Association: "I know the combination: dreaming about homosexuality and rectal intercourse" | Pregnancy material. Eliminative tendency. Homosexual tendency | Decline in progesterone. Estrogen. Premenstrual | 7-1-2 | 98.0 | Premenstrual. Minimal estrogen |
| 25 | DREAM: 1) Scopophilic and homosexual content. 2) Competing with a man in order to get the woman as sex object. 3) Mother interferes with gratification | Homosexual tendency. Heterosexual tendency. Mother-conflict | Estrogen. Progesterone. Premenstrual | 6-7-1-2 | 97.4 | Minimal estrogen and progesterone |
| 26 | Increased sexual urge. Urinary urge | Heterosexual tendency. Eliminative tendency | Same | 6-7-1-2 and some aggregation | 97.8 | Estrogen. Minimal progesterone |

CASE VII, CYCLE III—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|---|--|------------------|---------------------------------------|
| May 27 | <i>DREAM</i> Attacks analyst by her dirtiness. Then wants to please the analyst and becomes clean and attractive. Feels frustrated | Homosexual tendency. Negative and positive narcissism | Progesterone. Estrogen | 6-7-1-2 | 98.2 | Estrogen. Progesterone |
| 28 | <i>DREAM</i> : 1) Punishment for sexual guilt. 2) Regression to oral level 3) Reconciliation with mother. Acceptance of feminine role. Association: Relationship to brother | Heterosexual tendency. Oral regression | Estrogen. Lower hormone level | 6-7-1. More aggregation and debris | 97.4 | Decline in hormone. Low hormone level |
| 29 | <i>DREAM</i> : Passive, waiting, dependent on girl friends as well as analysis. Scopophilia | Dependence | Low hormone level | 6-7-1. More aggregation and debris | 98.2 | Low hormone level |
| 30 | No analytic session | | | 6-7-1. More aggregation and debris | | Low hormone level. |
| 31 | Depressed during week-end. She had <i>one eating spell</i> . Association: Competition with girl-friend about weight. Analysis of the previous dreams | Dependence. Oral regression. Negative narcissism | Low hormone level | 6-7-1. Marked desquamation | 98.0 | Low hormone level |
| June 1 | Feels fine. Worked conscientiously. Eating was quite all right. No analytic session | | | 6-7-1. Marked desquamation | 98.0 | Low hormone level |
| 2 | <i>DREAM</i> : 1) Willing to give up analyst. 2) Menstruation = dirt. Patient feels criticized because of menstruation. Oral regression. Meets other children eating ice cream, she refuses. Association: No food compulsion. Anal attack against analyst; analyst = father. Father's fear of pain. Menstruation = sickness, is attack against father | Anal and oral regression. Eliminative tendency. Father-complex | Progesterone decline. Very low estrogen. Premenstrual | 6-7-1 desquamation | 98.0 | Low hormone level |
| 3 | Sudden death of a very good friend (woman), killed in an automobile accident. Reaction: eating "jag"; depression. Longing for home | | | 7-1-2 Occ. R.B.C. | 97.6 | Low hormone level. Incipient estrogen |
| 4 | No analytic material | | | 7-1-2 Occ. R.B.C. | 98.0 | Same |
| 5 | No analytic material | | | 1-2. More secretion like menstrual blood | 98.6 | Same |
| 6 | <i>DREAM</i> : Horrified by a head of cabbage—it was wormy; wormy female genitals. Mother's genitalia. Mother's breast, cancer. Need for analyst's attention. Fear of being rejected. Sympathy for mother | Negative narcissism. Dependence. Mother-identification | Low hormone level | 1-2 Same | 98.2 | Same |
| 7 | Still depressed about friend's death. Talks about her mother. She understands her mother better now. Feels shame for stealing from mother. Masochistic wish—to be whipped by father | Masochistic tendency | Estrogen on low level | 1-2 Less blood but otherwise the same | 98.0 | Low estrogen |
| 8 | <i>DREAM</i> —forgotten. Still talks of the masochistic fantasies which were reality at one time. She realizes that this stimulates her sexually. Masturbated yesterday. Painful and pleasant feelings about mother and analyst. Wish to be rejected | Masochistic tendency | Estrogen | 1-2-3. More desquamation | 98.0 | Incipient estrogen |
| 9 | Menstrual flow is due but has not started yet. <i>DREAM</i> : Specimen = slides = feces. Vagina and anus identical. She brings slide to analyst; analyst has to reject her. Father-complex. No eating orgy since the weekend, June 1 | Anal regression. Heterosexual tendency. Awareness of genitalia | Estrogen. Minimal progesterone | 2-3 | 97.6 | Increasing estrogen |

CASE VII, CYCLE III—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|--|---------------------------|------------------|------------------|-----------------------------------|
| June 10 | <i>DREAM:</i> Defense against positive transference. Wish and fear: to be identified with analyst. No analytic session. <i>Eating orgy</i> | Homosexual tendency | Progesterone and estrogen | 2-3-4-5 | 98.2 | Increasing estrogen. Progesterone |
| 11 | No analytic session. Menstrual flow started | | | 3-4 | 97.6 | Estrogen. Preovulatory? |
| 12 | <i>DREAM:</i> Masturbation. Masturbation is masculine homosexuality. Curiosity, masculine identification | Homosexual tendency. Heterosexual tendency | Estrogen | No smear | | |
| 13 | Guilt feeling because of masturbation. Masturbation connected with menstruation. Defense against menstruation | Sexual tension | Estrogen | | | |
| 14 | Dependence on father. Tells how she feigned sickness in order to get money from father. Wish to go home to father. Somewhat jealous of the aunt who lives with father. Feels rejected by analyst because analyst goes on vacation | Receptive tendency. Heterosexual tendency on oedipus level | Estrogen | | | |
| 15 | Very depressed. Eating compulsion again. Wants to weep. No analytic session | Regression. Oral craving | | | | |
| 16 | "I hate myself for the eating orgies." The eating "jag" ceased this morning. Sexually excited during the session. Eating is substitute for masturbation | Sexual tension. Receptive tendency (oral and genital) | Estrogen | | | |

TABLE 25
June 17—July 18

CASE VII, CYCLE IV

Ovulative Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------------|---|---|---|--------------------|------------------|---|
| June 17 † | Feels fine. Depression is over. "I am seducing my father." Feels guilty toward analyst=mother. <i>DREAM:</i> 1) Feels rejected; her homosexual desire thwarted because of her "shape." 2) Very body-conscious. Inhibited exhibitionistic desire. Heterosexual desire. Envy of men. Men can eat infinitely and refuse her because of her breasts. Breast: the wish to feed, love, to be fed, and to be a baby. 3) Heterosexual play with brother. Awoke hungry | Heterosexual tendency. Oral and genital receptive and giving tendency. Narcissism | Estrogen and progesterone | 1-2-3. Occ. R.B.C. | 98.0 | Incipient estrogen |
| 18 | Masturbated last evening. No eating difficulties. No analytic session | Sexual tension | Estrogen | 1-2-3. Mucus | 97.6 | Estrogen |
| 19 | Wish to marry, to have a family. Confused about relationship to father. Wish to be loved by him. Guilt | Heterosexual tendency | Estrogen | 2-3-4. More mucus | 97.8 | Increasing estrogen |
| 20 | Guilt because of masturbation. Clear oedipus wish. "I could be better wife to father than mother is" | Heterosexual tendency on oedipus level | Estrogen | 3-4 | 97.6 | Increasing estrogen |
| 21 | <i>DREAM:</i> 1) Brother W. is her baby. Heterosexual desire. Wish to have intercourse. Brother G. scribbles on dirty wallpaper. Guilt because of infantile sexual play. Awoke lying on her stomach, sucking her thumb and very hungry. 2) Urinary symbolism | Wish to have child; heterosexual tendency on oedipus level. Oral and genital receptive tendency | Estrogen and minimal progesterone. Preovulatory | 3-4 | 98.0 | Increasing estrogen |
| 22 | Eating is fairly regular. Works very consistently. Needs much sleep. No analytic session | | | 3-4-5- | 98.2 | Estrogen and minimal progesterone. Preovulatory |

CASE VII, CYCLE IV—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|---|---|-------------------------|------------------|--|
| June 23 | Further analysis of the dream reported on 21st. Heterosexual relation to brother G. and father. Jealous that mother had brother W.—wish to destroy his genitals | Heterosexual tendency. Wish to have child. Sadism, penis envy | Estrogen. Progesterone. Preovulatory | 3-4-5. Leukopenia | 97.4 | Estrogen Increasing progesterone |
| 24 | Continuation: "It was a real wish—to pull out his genitals." Eating spell after the analytic session yesterday and this morning. Talks about all the castration threats—cutting the thumb. Castration. Penis envy | Oral and genital receptive tendency. Heterosexual tendency. | Estrogen. Progesterone. No postovulatory relaxation | 3-5. More aggregation | 97.4 | Ovulation (?) |
| 25 | Worse eating orgy yesterday after the analytic session. After having eaten candy the craving disappeared and she became depressed | Receptive tendency. Great sexual tension | Estrogen. Progesterone | 4-5 | 97.4 | Estrogen plus progesterone. Still ovulative |
| 26 | DREAM: 1) Guilt feelings because of ambivalence toward the brother, B. 2) Anal regression. 3) Coprophagic fantasy. Dream in the morning. Oedipus dream—jealous that father loves R. more than her. Ate a great deal in the evening | Anal regression. Oral regression. Relationship to child. Heterosexual tendency on oedipus level | Estrogen. Progesterone decline | 4-5-6-7 | 97.8 | Estrogen. Progesterone |
| 27 | DREAM: Clear heterosexual scene. Fear of penis. Fear of being attacked. Ambivalence toward brother. Eating spell disappears on 23rd and 26th, also after having had a large bowel movement. Association: Heterosexual play with brother G. | Heterosexual tendency. Oral receptive and eliminative | Estrogen. Progesterone | 4-5-6 | 97.8 | Estrogen. Progesterone |
| 28 | Yesterday eating "was fine." "Lot of work done." Very relaxed. Envy of W. Father prefers him now. Mother used to prefer him. Sadistic relation to W. | Sibling rivalry. Oral receptive tendency. Penis envy, castration tendency | Estrogen and progesterone | 4-5-6. Aggregation | 97.6 | Estrogen. Progesterone |
| 29 | No analytic session. Worked hard, consistently. Thought of her passive heterosexual wishes, the wish to be loved by men and by analyst | Passive libido tendency | Estrogen. Progesterone | 5-6-7 Degenerated | 97.9 | Decline in progesterone |
| 30 | DREAM: 1) Curiosity about analyst = mother. Wish to be analyst's daughter. Mother = analyst is inferior, therefore, she cannot identify herself. 2) Wish to reconcile with mother | Mother-identification. Inferiority feeling | Low progesterone | 6-7-1 | 98.2 | Low hormone level |
| July 1 | Feels well. Transference: "Does analyst love me?" Mother-conflict. Mother could not help me, mother was not satisfied, etc. | Mother-identification on level of inferiority | Low progesterone | 6-7-1 | 98.6 | Low hormone level |
| 2 | No analytic material | | | 6-7-1 | 98.6 | Low hormone level |
| 3 | No analytic material. Felt fine, somewhat longing | | | 7-1-2 | 99.0 | Low hormone level |
| 4 | Ate more than she should have on 3rd and 4th but no eating "jag." Withdrawal. Wants to escape from conflict | Dependence. Withdrawal of object libido | Low hormone level | 7-1. More debris | 99.2 | Low hormone level. Premenstrual |
| 5 | Associations: Mother-conflict. Wish to escape problem of dependence. Depressed. | Dependence | Low hormone level | 7-1. Debris | 98.6 | Low hormone level. Late premenstrual |
| 6 | "I feel fine." "I manage to eat a great deal. It is not real craving, but revenge on mother." Symbolism of female body. Question of food | Dependence. Oral receptive and regressive tendency. | Low hormone level | 7-1. Debris | 98.6 | Low hormone level |
| 7 | Had eating spell last night. Hypnagogic picture: The body of an old woman with a penis. Penis hampers the way to mother, to food | Oral receptive tendency. Penis envy. Hostility toward brothers | Estrogen and progesterone on very low level. Premenstrual | 7-1, and few aggregates | 98.6 | Low hormone level with progesterone dominant |

CASE VII, CYCLE IV—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|--|--|---|-----------------------------------|------------------|--|
| July 8 | Eating "jag" yesterday. Eating in connection with masturbation. Knowledge about father's sexual approach to mother. In masturbation patient plays the role of father and mother; guilt, great dissatisfaction, therefore, eating | Oral and genital receptive tendency. Defense against infantile sex curiosity | Premenstrual reaction. Estrogen and progesterone on low level | 7-1, and few aggregates | 98.2 | Low hormone level with progesterone dominant |
| 9 | Eating orgy. No analytic session | | | 7-1, and few aggregates | 98.3 | Low hormone level with progesterone dominant |
| 10 | Lost appetite after a very large bowel movement. DREAM: She gave a present to father-substitute; he gave her nice lingerie as gift. The daughter of this man is angry and jealous | Heterosexual tendency. Receptive tendency | Estrogen | 7-1, and many R.B.C. | | Late premenstrual |
| 11 | Analysis of previous dream. Wish to be slender and so treated by men as attractive women are treated. "If I could be an attractive woman I would be a prostitute." Fear of her own sex tendencies | Narcissism. Heterosexual tendency. | Estrogen, on low level. Premenstrual reaction | 7-1. Basal cells | 98.2 | Low hormone level |
| 12 | Eating, normal. Feels fine. Association: "I wish to be a prostitute for my father." Masochistic fixation to him. DREAM: 1) Prostitute wish. 2) Conflict with depressed mother who does not take care of her children. This dream seems to be a reaction to the explanation of the content of the first dream | Heterosexual tendency on oedipus level. Dependence. Mother-conflict | Estrogen | 1-2-3 More secretion. More R.B.C. | 98.2 | Incipient estrogen. Premenstrual |
| 13 | Depressed. Menstrual flow started. No special need to eat. No analytic session | | | Menstrual | | |
| 14 | DREAM: Same prostitution wish, related to father. Association: Heterosexual desire | Heterosexual tendency | Estrogen | No smear | | |
| 15 | Depression gone completely. She analyzes her mother's sexual inhibition. Fear of prostitution and her mother's depression and self-punishment | | | No smear | | |
| 16 | Feels all right. DREAM: 1) She is a "poor girl." Mother should take responsibility for her. 2) Prostitution fantasy. Eating = money = impregnation | Heterosexual tendency. Inferiority feeling. Receptive tendency | Estrogen and progesterone, like low hormone level | No smear | | |
| 17 | No analytic session | | | No smear | | |
| 18 | Analysis of previous dream. Receptive tendency—need for food and money. Relationship to father | | | No smear | | |

TABLE 26

September 25—October 28

CASE VII, CYCLE V

Ovulatory Cycle. Long progesterone phase.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHOANALYTIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-------------|---|---|--|---|------------------|---|
| Sept. 23 | <i>DREAM</i> : (Night before menstrual flow started). Mother's cancer—castration. Fear of menstruation. Talks mainly about her father's behavior during vacation | | | 1-2-3. Menstrual | 98.0 | Estrogen |
| 24 | Craving for food. Overcame the craving. No analytic session | Regression. Receptive tendency | Low hormone level | 7-1-2-3. Degenerated mucified aggregates | 98.2 | Estrogen decline. Low hormone level |
| 25 | No analytic session | | | 7-1-2. Same. | 98.0 | Low hormone level |
| 26 | Silent, withdrawn. Talks about her family—all negative aspects: her inheritance, demands on father. Father buys cloth—that would mean prostitution. Feels she is not well groomed; depressed like her mother was | Regression of heterosexual tendency. Inferiority feeling | Estrogen. Low hormone level | 7-1-2. Same | 98.6 | Low hormone level |
| 27 | Feels fine. Talks about her experiences at home, her ambivalence toward brother, W., and relationship to father. Eating all right | Heterosexual tendency (oedipus level) | Estrogen | 1-2-3. Many basal cells | 98.0 | Incipient estrogen. Low hormone level |
| 28 | No analytic session | | | 1-2-3. Few basal cells | 98.6 | Incipient estrogen. Low hormone level |
| 29 | Great resistance. She "keeps back" a number of things related to her vacation. She has conflict about asking analyst to change appointment hour | Resistance | Low hormone level | 8-1-2. Mucified debris | 98 | Low hormone level |
| 30 | Sleepy and hungry after previous analytic session. Finally talks about experiences she had during her vacation. Jealousy of brother because father prefers him. During this time she ate much and masturbated. Resistance | Oral receptive tendency. Heterosexual tendency on oedipus level | Low hormone level | 8-1-2. Mucified debris | 98.2 | Low hormone level |
| Oct. 1 | No analytic session. Has a cold. Eating all right | | | 8-1-2. Mucified debris | 98.2 | Low hormone level |
| 2 | <i>DREAM</i> : She plays the role of sister and mother to a child. Competition with mother for child. She is a better mother, feeds the boy chocolate cake. Great guilt because of anal connotation | Wish to have child. Anal and oral regression | Low hormone level | 8-1-2. Mucified debris | 98.2 | Low hormone level |
| 3 | Eating is all right. <i>DREAM</i> : about father. Exhibitionistic tendency. Wish to be sexual object for father. Associations—complains about mother who exposed her to sexuality and did not protect her against her instinctual desires | Heterosexual tendency. Mother-conflict as defense against oedipal guilt | Incipient estrogen | 8-1-2. Mucified debris | 98.2 | Low hormone level |
| 4 | Patient has bronchitis, but in spite of that feels all right. She connects bronchitis with birth of brother W. at which time bronchitis started and since which has often recurred. Material about father—wish to have father's child | Heterosexual tendency. Wish to have child | Estrogen. Progesterone. Preovulatory | 2-3-4. Few basal cells | 97.8 | Estrogen |
| 5 | "Very disturbed" about the same conflict: wish to have father's child. After previous session had desire for "eating jag" but controlled it | Heterosexual tendency. Receptive tendency | Estrogen. Progesterone. Preovulatory | 3-4-5. Minimum aggregation | 98.0 | Estrogen. Progesterone |
| 6 | <i>DREAM</i> : Father getting out food = child from ice box. Fear of father's hairy body. Looking at father's genitals. Associations: Frigidity of mother; father's genitals | Heterosexual tendency. Awareness of female body | Estrogen. Progesterone | 4-5. Marked desquamation | 98.2 | Estrogen. Progesterone |
| 7 | Great need for food. Worked constantly. No analytic session | | | 4-5. More secretion | 97.8 | Estrogen. Progesterone, like ovulation |

CASE VII, CYCLE V—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|---|---|-----------------------------------|------------------|--|
| Oct. 8 | No analytic session. Less eating; masturbation | | | 5-6-7 | 97.6 | Slight decline of progesterone |
| 9 | Ate all day long. Has image: Immense pile of feces, one piece sticking out in the middle. Masturbation | Oral regression. Genital tendency expressed on anal level | Progesterone dominant, and estrogen | 4-5 | 98.2 | Estrogen and progesterone |
| 10 | Very intensive sexual fantasies not only during analytic session, but on 7th, 8th, and 9th. Food intake—feces elimination; both functions sexualized. Her whole body is one sexual machine. Keenly conscious of her body | Oral receptive and anal eliminative tendencies. Sexual tension | Estrogen and progesterone | 3-4-5 | 98.2 | Estrogen and progesterone |
| 11 | "Eating jag" again last night. Depressed. Masturbatory fantasy. Vagina=anus. Need for bowel movement. Sexual material has anal quality | Oral receptive, anal eliminative tendencies. Sexualized, like preovulatory | Estrogen and progesterone | 4-5. Aggregation beginning | 98.6 | Estrogen and progesterone, like ovulatory |
| 12 | Eating spell stopped after previous session. No analytic session | | | 4-5. Aggregation | 98.6 | Estrogen. Increasing progesterone, like luteal phase |
| 13 | Forgot dream. Does not talk. She keeps thinking of her not talking | Resistance | Decline of hormone | 5-6-7. More debris | 98.2 | Decline in progesterone |
| 14 | No analytic material | | | 5-6-7. Same. | 98.2 | Decline in progesterone |
| 15 | Eating started again. DREAM: 1) Brother W's penis is exposed. She is bothered by it. Envy of penis. 2) Interest in prostitution. 3) Wish to be given gift. 4) To be a woman is a pleasure—what mother really did not know. Masturbation | Heterosexual tendency. Genital receptive tendency. Feminine identification | Estrogen. Progesterone dominant | 5-6. More aggregation and folding | 98.6 | Progesterone. Luteal phase |
| 16 | DREAM: Curiosity about mother's body. Negative attitude toward femininity. Wish to have pleasure. Eating | Mother-identification. Receptive tendency | Progesterone | 5-6. Same | 98.4 | Progesterone. Luteal phase |
| 17 | Reports how bad the weekend was; eating and masturbation urge. Wants to be forced by analyst not to eat. Mother-transference. Mother-conflict | Mother conflict. Receptive tendency | Progesterone | Extreme folding of 5 | 98.6 | Progesterone peak |
| 18 | Analyzes the fact that competitive eating and masturbation appear together. Controlled the need for masturbation. The craving for food increased. Talks about her relationship to mother, mother's pregnancy with brother W. Eating is revenge on mother, aggression against and identification with her. Eating stopped last evening | Mother-conflict; Less sexual tension than previous days | Progesterone decline | 6-7. Debris. More secretion | 98.6 | Progesterone decline |
| 19 | Eating perfect. No analytic session | | | 6-7 Same | 98.4 | Progesterone decline |
| 20 | Analyzes the material of previous session: eating and mother-conflict. Eating as self-destructive, masochistic gratification. Eating=identification with baby. Eating=repetition of pregnancy. Elimination=childbirth. Sadistic tendency toward brother W. Heterosexual play with older brother | Mother-conflict. Heterosexual tendency. Sadistic tendency (infantile level) | Decline of progesterone and estrogen, both on low level | 7-1 | 98.4 | Low hormone level |
| 21 | No analytic session | | | 7-1-2-3 | 98.4 | Premenstrual. Incipient estrogen |
| 22 | Eating spell again last night. Resistance re. analysis. Overslept. DREAM: Heterosexual tendency, but the analyst watches her and this inhibits her experiences. Anal material. Resistance against analyst=mother, also against being a woman. "I want to keep my eating compulsion. I enjoy it" | Heterosexual tendency. Eliminative tendency on anal level. Defense against being woman. Oral regression | Estrogen. Progesterone decline. Premenstrual | 7-1-2-3 | 98.2 | Premenstrual. Incipient estrogen |

CASE VII, CYCLE V—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|---|---------------------------|---------------------------------|------------------|----------------------------------|
| Oct. 23 | Menstrual flow started. She is angry at analyst because of the interpretation of heterosexual material | Heterosexual tendency | Estrogen | 7-1-2-3 | 98.2 | Premenstrual. Incipient estrogen |
| 24 | Continuation: Sexual temptation = Jewish man. Defense against analysis = sexual temptation | Heterosexual tendency | Estrogen | 1-2-3. Menstrual | 98.2 | Incipient estrogen |
| 25 | Resistance continues but tension is less than on previous days. Feels guilty and involved in her relationship to Jewish people. Jewish man = sexual danger. Inferiority feelings because of her looks; wish to change, to be attractive to men. | Heterosexual tendency | Estrogen | 1-2-3. Menstrual | 97.8 | Menstrual. Estrogen |
| 26 | She is all right. Eating, perfect. Masturbation. No analytic session. | Sexual tension | Estrogen | 2-3. Menstrual | 98.2 | Menstrual. Increasing estrogen |
| 27 | Suddenly depressed in the morning. Feeling of hopelessness. Masturbated. Masturbation lifted depression. Talks about two men—situation is quite involved. Represses heterosexual desire | Heterosexual tendency | Estrogen | 2-3-4. Menstrual | 97.6 | Increasing estrogen |
| 28 | Talks about her need to have normal sexual relationship; feels she is masculine, therefore unattractive. She cannot fight against this—therefore hopelessness | Heterosexual tendency Conscious of body. Narcissism | Estrogen. Progesterone | 4-5-6. Much blood and secretion | 97.8 | Estrogen. Progesterone |

TABLE 27
March 5—April 4

CASE VII, CYCLE X

Anovulatory Cycle. Three Luteinizations of follicle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|---|----------------------------------|------------------|--|
| Mar. 5 | Masturbated last night. Complete loss of appetite. DREAM: Fear of father. Fear of being criticized for her repressed aggression | Heterosexual tendency | Estrogen | 2-3-4. Occasional R.B.C. | 99.2 | Estrogen |
| 6 | DREAM: About father. Wish for independence. Can achieve it only by cheating on father. Guilt because of incestuous play with brother. Longing for marriage. Fear that father will interfere with her sexual independence | Heterosexual tendency | Estrogen | 3-4. More desquamation | 98.4 | Increased estrogen |
| 7 | Complete loss of appetite. Feels fine but is irritable. No analytic session | | | 4-5-6. Aggregation and secretion | 98.6 | Estrogen and progesterone. Luteinization of follicle |
| 8 † | Irritable. Angry at herself because she forgets dreams. Association: about father. Incest wish. Sexual curiosity. Primal scene material | Heterosexual tendency | Estrogen | 4-5-6. Aggregation and secretion | 98.9 | Estrogen and progesterone. Luteinization of follicle |
| 9 † | Irritability increased yesterday. Had a drive to hurt herself, to tear herself up. She wishes to destroy herself because she is similar to her father; fights against identification with father and the closeness of father's body | Aggression. Sexual tension. Masculine identification. Heterosexual tendency | Increased estrogen, like preovulatory tension | 4-5-6. Aggregation and secretion | 99.4 | Estrogen. Progesterone |
| 10 | Headache; sleeps much. Urinary urgency. Complete lack of appetite. DREAM: 1) Homosexual transference 2) Food. 3) Identification with delinquent girl. Delinquency causes loss of love. Need to have analyst's attention | Homosexual tendency. Dependence. Inferiority feeling. (Narcissism) | Progesterone | 5-6 | 98.6 | Progesterone |
| 11 | Complains about not feeling increased sexual tension as she had expected after taking the Estriol. Depressed, feels that it is hopeless to increase her feminine tendencies and feelings | Depression. Inferiority feeling | Progesterone decline | 6-7. Degeneration | 98.4 | Progesterone decline. Low hormone level |

CASE VII, CYCLE X—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|--|---|-------------------------------------|------------------|---|
| Mar. 12 | Her friend A. arrived. Suddenly the craving for food developed after she had masturbated | Oral incorporative tendency | Progesterone | 6-7. Degeneration | 98.0 | Progesterone decline. Low hormone level |
| 13 | Is more demanding than she used to be. Wants the attention of her friend, A, as well as of the analyst. Afraid that she does not get enough attention | Homosexual tendency. Dependence | Progesterone | 5-6-7. Aggregation and folding | 97.8 | Progesterone dominant |
| 14 | No analytic material | | | 4-5-6 | 98.2 | Estrogen. Progesterone |
| 15 | | | | 3-4-5 | 98.0 | Same. Like ovulative phase |
| 16 | | | | 3-4-5. More secretion | 97.8 | Increasing estrogen and progesterone |
| 17 | Too much work to do. Hurried. Material is about brother W. Conflict about him | | | 3-4-5. More secretion | 98.2 | Increasing estrogen and progesterone |
| 18 | Eating orgy since last analytic session. Craving is wavering. "I could overcome it but I don't want to." Masturbation. "I found myself resembling my mother" | Mother-conflict. Incorporative tendency | Progesterone | 4-5-6. More folding and aggregation | 98.6 | Estrogen. Progesterone. Luteal phase |
| 19 | DREAM: 1) Conflict about the younger brother, W. His birthday. Her own sickness on W's birthday was the identification with mother. 2) Father's gun: impregnation symbolism. Eating "changing." Very self-destructive | Impregnation tendency. Mother-identification. Childbirth | Progesterone Estrogen | 4-5-6 (7) Same and more debris | 98.6 | Estrogen. Slight decline in progesterone |
| 20 | Self-destructive. "I want to destroy my resemblance with my mother." Craving for penis. Wish to have everything a man has | Incorporative tendency. Penis envy. Mother-conflict. Mother identification | Estrogen. Progesterone | 4-5 | 99.0 | Estrogen. Progesterone. Like postovulative |
| 21 | Feels much better; lost the compulsion to eat. DREAM: Mother in kitchen. Mother suffers. Irritation about mother's masochism. Death wish toward mother. Association: Her self-destructive tendency during previous days | Mother-identification on masochistic level | Progesterone, like postovulative | 4-5 | 98.6 | Estrogen. progesterone. Like postovulative |
| 22 | Feels better. Analysis of previous dream. Association: Defense against feminine masochism. Death wish toward father. Defense against childbirth | Masochistic tendency. Death wish | Decline in estrogen and in progesterone | 5-6-7 | 98.6 | Slight decline in estrogen and progesterone |
| 23 | After yesterday's session she was depressed; had to eat, which she explains as an expression of her negative feelings toward analyst = mother. Wants to be dependent and independent too | Dependence. Receptive tendency. Mother-conflict | Progesterone | 6-7 | 98.0 | Progesterone decline |
| 24 | DREAM: Anxiety dream, repulsive: Penis = rat = poisonous food. Association: Therefore resistance against feminine attitude which means incorporation of penis. W's birth—masturbation | Heterosexual tendency. Receptive tendency | Decline in progesterone and estrogen. Premenstrual reaction | 6-7-1. Mucified, occasional R.B.C. | 98.0 | Low hormone level |
| 25 | Talks about the dream of the previous night. She is still bothered by it. Association: Mainly about infantile masturbation and fear of being attacked sexually; an experience of childhood also connected with W's birth. Eating "pretty bad." Depressed | Heterosexual tendency | Estrogen. Premenstrual | 7-1-2. Aggregation and secretion | 99.0 | Incipient estrogen. Premenstrual |
| 26 | Depressed. "I dislike myself." Need to establish relationship with man; inferiority feeling hampers it | Heterosexual tendency. Inferiority feeling | Progesterone decline. Estrogen | 7-1-2-3 | 99.0 | Decline in progesterone. Incipient estrogen |

CASE VII, CYCLE X—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|--|---|---------------------------|------------------|---|
| Mar. 27 | DREAM: 1) Envy toward girl friend because she lives a free, rich, "gangster-prostitute life." Patient is excluded but she has the narcissistic gratification that she is "better." 2) She goes back to mother, gets all the attention because mother assumes that she is ill | Heterosexual tendency. Dependence. Narcissism | Estrogen. Progesterone | 3-4-5 | 98.6 | Increased estrogen and progesterone, like luteinization of follicle |
| 28 | Is eating heavily. Excess of saliva. DREAM: About dresses. 1) Wish to dress well, wish to accept her body. Conflict about menstruation: dirt. 2) Wants to be taken care of. 3) Sadistic wish toward dog | Narcissism. Dependence. Sadistic tendency. Anal regression | Estrogen decline. Progesterone | 4-5-6-7 | 98.6 | Estrogen. Progesterone dominant |
| 29 | No analytic material. Eating spell | | | 4-5-6-7 | 99.2 | Estrogen. Progesterone dominant |
| 30 | Depressed, lonesome feeling; would like to cry, feels irritable. Very anxious that her menstrual flow should come on 28th day of cycle. Complains about lack of sexual feeling | Regression | Low hormone level. Pre-menstrual depression | 5-6-7 | 98.8 | Progesterone |
| 31 | No analytic session | | | 5-6-7 | 98.6 | Progesterone |
| April 1 | Menstrual flow started. Eating continued to be heavy even after flow started | | | 5-6 | 98.8 | Progesterone |
| 2 | | | | 6-7-1. Menstrual | 98.6 | Progesterone decline |
| 3 | | | | 7-1-2 (3). Blood | | Increasing estrogen |
| 4 | | | | 7-1 and few 1-2 menstrual | | Declining hormone |

TABLE 28
June 1—June 25

Anovulatory Cycle.

CASE VIII, CYCLE XI

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|--|---|--|---------------------------------------|------------------|--------------------------------|
| June 1 | No analytic material | | | No smear | 98.4 | |
| 2 | Tired, depressed, feels detached. DREAM: 1) Good relationship with mother. Friendliness. 2) Has to give up competition with man and has the insight that she is not as good as men | Inferiority feeling. Dependence on mother. Defense against masculine identification | Low hormone level. Incipient estrogen? | No smear | 98.1 | |
| 3 | | | | 7-1-2-3 | 98.3 | Incipient estrogen |
| 4 | | | | 2-3-(4) | 98.4 | Increasing estrogen |
| 5 | | | | 3-4. Leukopenia | 98.6 | Increasing estrogen |
| 6 | Had very pleasant weekend. Met a pleasant woman, mother-imago. Actual material only. Very enthusiastic transference to this woman | Homosexual tendency | Estrogen. Progesterone? | 3-4-(5) | 97.8 | Estrogen. Minimal progesterone |
| 7 | DREAM: Siblings—unborn children who fight and make noise when awake. Patient feeds them. Wish to identify with mother. Associations: Siblings — rivalry, brother. She is more at ease; less competition with brother | Mother-identification. Feeding tendency. Birth symbolism | Progesterone. | 5-6-7 Aggregation of degenerate cells | 98.2 | Progesterone dominant |

CASE VIII, CYCLE XI—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|---|--|----------------------------|------------------|----------------------------------|
| June 8 | Depressed. "Everything is wrong." <i>DREAM</i> : Regressive need to be in the 'little house'; fear, "something bad was going to happen to me." Association: Fear of snakes, fear of penis | Womb fantasy. Regression into womb from heterosexual danger | Progesterone. Low estrogen? | 5-6-(7) (1) | 98.6 | Decline in progesterone |
| 9 | No analytic material | | | 5-6-(7) (1) | 98.6 | Progesterone low level |
| 10 | Feels much better, cheerful. Depression lifted today. <i>DREAM</i> : 1) Birth symbol. Brother's birth. 2) Identification with women; they all want to defend themselves against men. 3) She tries to hide her dirty feet. Heterosexual transference | Birth symbolism. Anal regression. Eliminative tendency. Heterosexual tendency | Decline in progesterone. Estrogen, like premenstrual | 5-6-(7) (1) | 98.8 | Progesterone low level |
| 11 | Feels all right. <i>DREAM</i> : 1) Water symbolism. Birth of brother. Bleeding. 2) Planting seeds. Threatening animal—bycna acts like a dog. No danger | Eliminative tendency. Birth and impregnation symbolism. Heterosexual tendency | Decline in progesterone. Low estrogen. Premenstrual | 6-7-(8) | 98.9 | Low hormone level |
| 12 | <i>DREAM</i> : Confusion about a full house, siblings. Confusion about her feelings, whether she wishes to feed them like mother, or whether she wishes them to starve | Birth symbolism. Dependence. Ambivalence toward siblings, toward mother role | Premenstrual Same. | 7-1-2 | 98.8 | Premenstrual. Incipient estrogen |
| 13 | | | | 7-1-2 | 98.6 | Premenstrual. Incipient estrogen |
| 14 | Depressed again. <i>DREAM</i> : 1) Angry, feels frustrated. Father owns all the nice little things, gives them away and she does not get any. 2) Father and brother ride away in carriage—they don't wait for her. Demanding from father | Receptive tendency. Heterosexual tendency on infantile level | Progesterone. Estrogen. Premenstrual | 7-1-2 | 98.6 | Premenstrual. Incipient estrogen |
| 15 | Feels better. Enjoyed work. Feels superior? Record inadequate | | | 7-1 | 98.8 | Low hormone level |
| 16 | | | | 7-1. More debris | 98.0 | Low hormone level |
| 17 | Withdrawn. <i>DREAM</i> : Afraid of being robbed. Doesn't want to spend money—she is a woman, but has to spend money to protect herself against pregnancy. Feminine sexual desire. Conflict: oral receptive and genital receptive tendency | Conflict between receptive and eliminative tendency | Decline in progesterone. Low hormone level | 7-1. More debris | 98.8 | Low hormone level |
| 18 | Feels better, more active. <i>DREAM</i> : 1) Fear of sexuality. Birth symbolism. 2) Good relationship with mother. Mother protects her against sexual danger | Reconciliation with mother. Defense against heterosexual tendency | Progesterone. Estrogen. Premenstrual reaction | 7-8-1. Marked desquamation | 98.8 | Low hormone level |
| 19 | No analytic material | | | No smear | | |
| 20 | Menstrual flow starts. Tired, depressed. No analytic material | | | 7 | 98.4 | Low hormone level |
| 21 | <i>DREAM</i> : Defense against femininity. Wants to be a boy. Borrows pants | Defense against menstruation | | Menstrual | 98.4 | |
| 22 | Essentially the same material | | | No smear | 98.2 | |
| 23 | Feels fine. <i>DREAM</i> : Hatful competition with mother. Oral conception | Oral receptive tendency. Aggression toward mother | Progesterone like. Low hormone level | No smear | 98.4 | |
| 24 | No material | | | No smear | 98.5 | |
| 25 | Feels well, friendly, cheerful. <i>DREAM</i> : Anal regression. Embarrassment. Infantile narcissism. Dependence on mother | Anal regression. Dependence | Low hormone level | No smear | 98.1 | |

TABLE 29

October 19—November 12, inclusive

CASE VIII, CYCLE XVII

Like Bimodal Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|---|---|---|------------------|--|
| Oct. 19 | <i>DREAM</i> : "Something interesting was happening all the time—fun and yet dangerous. This game 'hurt' the man who remained on the 'battleground'." Then she could feel tenderly toward him | Heterosexual tendency. Defense by castration wish toward men | Estrogen | Desquamation of 2-3-4 | 98.1 | Estrogen |
| 20 | Feels well, cheerful. Talks about her defensiveness toward men. Wish to overcome her narcissism | Heterosexual tendency | Estrogen | Poor smear | 98.0 | |
| 21 | Feels well, relaxed. <i>DREAM</i> : Curiosity about mother's sexual life. Fear and inhibition. Depressed dream content | Heterosexual tendency on level of infantile curiosity. Mother-conflict | Estrogen. Progesterone | 3-4-5. Mucus leucocytes | 98.0 | Preovulatory Estrogen. Progesterone |
| 22 | Feels well, relaxed. Associations: mainly about persons who died; death as punishment for sexuality | Regression | Low hormone level | Bacterial invasion. Basal cells. Degeneration | | Low hormone level |
| 23 | No analytic session. Coitus | | | No smear | | |
| 24 | No analytic session. Coitus | | | No smear | 98.0 | |
| 25 | <i>DREAM</i> : Exhibitionistic tendency. Changing attitude toward other sex. Voyeur pleasure and wish to show herself | Heterosexual tendency. Narcissism. Exhibitionism | High estrogen. Progesterone. Ovulatory | No smear | 98.0 | |
| 26 | No analytic material | | | 4-5-6. Aggregation and folding | 98.4 | Progesterone dominant. Estrogen |
| 27 | Relaxed and without fear and guilt about her heterosexual relationship. <i>DREAM</i> : Very interested in her work. Interest in dresses, in her body | Narcissism. Heterosexual tendency | Progesterone. Estrogen (like postovulatory) | No smear | | |
| 28 | Feels well. Talks about a girl friend who used to be her mother-imago; she may control her heterosexual life, (fear of heterosexual guilt) as she tried to watch her mother's sexual life | Heterosexual tendency. Mother-conflict. Sexual curiosity regarding mother | Progesterone. Estrogen | 5-6 | 98.3 | Luteal phase. Progesterone |
| 29 | No material | | | 5-6-7 | 98.6 | Decline in progesterone |
| 30 | <i>DREAM</i> : Motherly to "our babies." Analyst-father. Participates in the family life | Motherliness | Progesterone | 5-6-7 | 98.4 | Progesterone |
| 31 | Feels cheerful. <i>DREAM</i> : Childbirth. She should help her mother during parturition. Analyst—father wants to help but he is not able to—he is only in the way | Childbirth. Reconciliation with mother | Progesterone | 5-6. More aggregation | 98.9 | Progesterone |
| Nov. 1 | Depressed. <i>DREAM</i> : Wants to be alone, to get rid of men and women but "men are less trouble than women." Association: Depreciation of men. Irritability toward women | Regression of object libido. Hostility | Progesterone. Low hormone level | 5-6. Same | 98.9 | Progesterone. Luteinization of unruptured follicle |
| 2 | No analytic material | | | 5-6. Same. | 98.8 | Progesterone |
| 3 | Bad mood. <i>DREAM</i> : 1) Young woman. Inhibited about talking. 2) Bath room. Water symbolism. Urination. Urinary conception of sexuality. Impregnation by urine. Clay modelling—creating on anal level | Eliminative tendency. Heterosexual tendency on urinary level | Premenstrual. Decline in progesterone. Incipient estrogen | 7-1-2 (less aggregation) | 98.6 | Premenstrual. Incipient estrogen |
| 4 | Feels mean, irritable, restless. Her boy friend visited her. She is critical, wants to get rid of him | Heterosexual tendency. Aggression | Estrogen. Premenstrual reaction | 2-3-4 | 98.7 | Increased estrogen |

CASE VIII, CYCLE XVII—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPERATURE | HORMONAL STATE |
|--------|---|---|---------------------------------|--|-------------|---|
| Nov. 5 | Feels better; is not angry. <i>DREAM</i> : 1) Depreciation of analyst, father. 2) Wish to reconcile with mother and with fact that she is a woman. Vagina is not dirty but very clean. 3) She is unable to handle a child | Heterosexual tendency. Awareness of vagina. Mother-child conflict. Reconciliation | Estrogen. Progesterone | 3-4-5 | 98.6 | Increased estrogen. Minimal progesterone. Like preovulatory |
| 6 | <i>DREAM</i> : Pleasant dream. Toilet—anal birth of a baby. Mother should take care of baby | Eliminative tendency. Anal regression | Decline in progesterone | No smear | 98.4 | |
| 7 | <i>DREAM</i> : 1) Curiosity toward pregnant woman, aggression toward her. 2) Urinary and birth symbol | Defense against pregnancy wish. Eliminative tendency | Progesterone. Low hormone level | 6-7. Debris | 98.1 | Progesterone. Low hormone level |
| 8 | <i>DREAM</i> : About feeding many people. Ambivalent attitude. Menstrual flow started | Feeding, oral giving tendency, motherliness | Progesterone | 5-6-7 Sudden desquamation of cornified cells | | Progesterone dominant |
| 9 | No analytic material | | | 4-5-6 | 98.1 | Menstrual |
| 10 | Bad mood. Discouraged. Dream about being robbed of money | Fear of losing. Eliminative tendency | Low hormone level | 7-1-3 | 98.3 | Decline in hormone |
| 11 | Feels better. Wants to be alone. <i>DREAM</i> : fear of being attacked sexually | Heterosexual tendency | Estrogen | 1-2-3 | | Incipient estrogen |
| 12 | No analytic material | | | 1-2-3 | | Incipient estrogen |

TABLE 30

November 13—December 6

CASE VIII, CYCLE XVIII

Ovulative Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPERATURE | HORMONAL STATE |
|---------|---|--|-----------------------------|--|-------------|--|
| Nov. 13 | No analytic material | | | No smear | 98.4 | |
| 14 | No analytic material | | | 1-2. Bacterial invasion | 98.0 | Incipient estrogen |
| 15 | Cheerful in the beginning of the session. Material principally about her insecurity, especially toward energetic women | Dependence | Low hormone level | No smear | 97.8 | |
| 16 | Heterosexual experience | Heterosexual tendency | Estrogen | 3-3-4. Mucus | 97.8 | Increasing estrogen. Preovulatory |
| 17 | No analytic session | | | 4. Abundant mucus | 98.3 | Estrogen. Ovulation |
| 18 | Talks mostly about events of the last two days. Enjoyed intercourse. No characteristic material | Heterosexual tendency. | Estrogen | No smear | | |
| 19 | Feels free, not depressed nor hostile. <i>DREAM</i> : Homosexual content. Soiling=feminine activity. Soiling as sexual symbol. Symbolism of female body | Homosexual tendency. Urethral regression. Awareness of female body | Progesterone. Postovulatory | 4-5. Aggregation; folding; secretion | 98.4 | Estrogen and progesterone. Postovulatory |
| 20 | No material | | | 4-5-6. Aggregation; folding; secretion | 98.3 | Estrogen. Progesterone dominant |
| 21 | Feels fine. Misses her boy friend but is also afraid of becoming dependent on him. <i>DREAM</i> : "My mother's stomach is full of snakes" | Oral impregnation. Pregnancy tendency. Penis symbolism | Progesterone dominant | 5-6. Complete aggregation | 98.3 | Progesterone |
| 22 | Feels very cheerful. <i>DREAM</i> : Incest wish projected to sister. Sister and brother are married. Patient had to prevent it; guilt. Identification with both | Homosexual and heterosexual tendencies on incest level | Progesterone. Estrogen | 5-6. Complete aggregation | 98.4 | Progesterone |

CASE VIII, CYCLE XVIII—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|--|---|--|-----------------------------------|------------------|--|
| Nov 23 | Had intercourse. Feels quiet, not hostile. Feels guilty because of her heterosexual relationship. Fear of mother's punishment | Mother-conflict | Declining progesterone | No smear | | |
| 24 | No material | | | 5-6 | 98 | Luteal phase. Progesterone |
| 25 | No material. Sexual experience | | | No smear | | |
| 26 | No material | | | No smear | | |
| 27 | No material | | | 5-6 | 98.7 | Progesterone |
| 28 | Relaxed. Dependency and masochistic fixation on homosexual friend. Creates a situation in which she is punished for her sexuality | Dependence. Homosexual tendency. Masochistic tendency | Progesterone dominant | 5-6. More aggregation and folding | 98.3 | Progesterone |
| 29 | No material | | | 6-7 | 98.4 | Decline in progesterone |
| 30 | Feels tired. Wants to withdraw from everyone. Material is influenced by actual happenings | | | 7-1-2. Occasional cornified cells | 98.6 | Incipient estrogen. Premenstrual |
| Dec. 1 | No material | | | 4-5. Folding. Aggregation | 98.5 | Progesterone dominant. Estrogen |
| 2 | Feels well. DREAM: 1) Being with mother and siblings like a child. 2) Identification with mother. 3) Primal scene. 4) Fear of death | Dependence. Guilt because of sexuality | Decline in progesterone | 6-7. Degenerated | 98.5 | Decline in progesterone |
| 3 | Feeling of pressure. Slight cramps—oncoming menstruation. No analytic material | | | 5-6-7 | | Progesterone |
| 4 | DREAM: Her typical premenstrual "boat-water" dream. Boat = womb. Pregnancy: Sister is in a boat. She has to learn how to handle the boat but no one will teach her. Menstrual flow started | Pregnancy symbolism. Eliminative tendency | Decline in progesterone | 5-6-7 | 99.1 | Progesterone |
| 5 | DREAM: Planning on building a house with the father; only bedrooms and bathrooms are to be in this house | Heterosexual tendency on oedipus level. Anal regression | Low estrogen and declining progesterone | 6-7-1-2. Blood. | | Low estrogen. Menstrual. Declining progesterone. |
| 6 | Feels bored and withdrawn. DREAM: Abortion, losing something from the vagina | Eliminative tendency | Decline in progesterone. Low hormone level | 6-7-1-2. Blood. | | Low estrogen. Declining progesterone. Menstrual |

TABLE 31

December 7—December 31

CASE VIII, CYCLE XIX

Ovulative Cycle. Early ovulation.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|---|--|------------------|---|
| Dec. 7 | No material | | | 2-3-4. Bacterial invasion | 98.2 | Estrogen |
| 8 | No material | | | 3-4. More secretion | 98.1 | Estrogen |
| 9 | Menstrual flow finished | | | 3-4. Minimal folding | | Estrogen. Minimal progesterone |
| 10 | Feels all right. Thinks of the many "ups and downs." Talks in relaxed manner. Very little recorded ma- terial | | | 4-5 | | High estrogen. Progesterone. Ovulation |
| 11 | Headache started after session on 10th. Feels frustrated, no outlet | | | 4-5-(6). Aggregation. Desquamation | 98.5 | Estrogen. Progesterone dominant. Postovulatory |
| 12 | Depressed, still has headache. Has feeling she has no friends to go to, dislikes parties, groups—cannot make contacts | Withdrawal of object libido | | 4-5-(6). Aggregation. Desquamation | 98.1 | Estrogen. Progesterone dominant. Postovulatory |
| 13 | Need for attention. No analytic session. Depressed, irritable; felt weak | Regressive. Narcissistic | | 5-6-(7). Aggregation. Desquamation | 98.0 | Slight decline in progesterone |
| 14 † | Yesterday evening her mood changed suddenly. She became "loud" and excited. DREAM: Wish to please mother. Her hostil- ity interferes with this wish. Acts as if she would be helpful but is un- decided and ambivalent | Mother-conflict | Progesterone | 4-5-6. Aggregation and desqua- mation | 98 | Estrogen. Increase in progesterone |
| 15 † | Feels well; acts cheerful. Tells about Christmas preparations. Her attitude toward the family changed; it is more normal, less domineering | Mother-conflict | Progesterone | 4-5-6. Aggregation and desqua- mation | 98.3 | Estrogen and progesterone |
| 16 | Feels "pretty good." DREAM: Analyst=father. Patient is in the wife's place. There are many chil- dren, receptive, demanding. Then analyst's wife comes and she is afraid of her. Heterosexual sym- bolism. Fear of orgasm. Hostility toward mother | Heterosexual tendency on oedipus level. Oral receptive tendency. Mother- identification | Estrogen. Progesterone | 4-5-6. Aggregation and desqua- mation | 98.3 | Estrogen and progesterone |
| 17 | No material | | | 5-6-7 | 98.5 | Decline in progesterone |
| 18 | No material | | | 6-7 | 98.4 | Decline in progesterone |
| 19 | Feels quite well. Discussion of her giving-taking attitude. Depend- ence and wish to be free from homosexual friend. Mother image | Conflict about dependence | Low hormone level | 6-7 | 98.6 | Further decline in progesterone |
| 20 | Feels well,—a little tired but very satisfied because she handled an actual situation with a woman quite adequately. DREAM: 1) Family makes everything dirty; children—she cleans up. 2) Shiny marble floor is slick, uncomfort- able. Association: intercourse= danger | Awareness of vagina. Anal regression. Heterosexual tendency | Progesterone decline. Estrogen on low level. Premenstrual reaction | 7-1 | | Low hormone level |
| 21 | DREAM: Swimming around in a red sea. Part of the water was red, another part was not red. Could swim best in the red water. Associ- ation: Slippery floor=vagina, urine, blood. Birth fantasy | Womb fantasy. Eliminative tendency | Premenstrual. Low hormone level | 7-1 | | Low hormone level |
| 22 | No material | | | 5-6-7 | | Slight increase in progesterone |

CASE VIII, CYCLE XIX—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------|--|---------------------------|------------|-------------------------------------|------------------|---|
| 23 | Feels well. Acts cheerful. Christmas preparation. Wish that her family will become more independent of her and regrets that she cannot dominate them | | | 5-6-7 | | Slight increase in progesterone |
| 24 | No material | | | No smear | | |
| 25 | CHRISTMAS VACATION | | | 7-1-2 | | Incipient estrogen. Premenstrual |
| 26 | | | | No smear | | |
| 27 | | | | 1-2-3. Aggregation and desquamation | | Estrogen. Progesterone? |
| 28 | | | | | | Menstrual |
| 29 | | | | 1-2-3. Aggregation and desquamation | | Incipient estrogen. Progesterone. Menstrual |
| 30 | | | | 2-3 | | Increasing estrogen. Menstrual |
| 31 | | | | 2-3-4 | | Increasing estrogen |

TABLE 32

January 1—January 23

Ovulative Cycle. Early Ovulation.

CASE VIII, CYCLE XX

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|--------|--|---|--------------------------------------|-----------------------------|------------------|--|
| Jan. 1 | CHRISTMAS VACATION | | | 3-4. Secretion | | Increasing estrogen |
| 2 | | | | 1-2-3. Bacterial invasion | | Slight decrease in estrogen |
| 3 | | | | 3-4-(5) | | Estrogen. Minimal progesterone |
| 4 | Quite cheerful. Vacation at parent's home was pleasant,—no arguments; was not antagonistic to mother. Talks about brothers with understanding. Feels quite libidinous toward everyone—boy friend and girl friend alike | Very libidinous. Heterosexual and homosexual tendencies | High estrogen. Minimal progesterone | 4-(5) | | Estrogen peak. Minimal progesterone. Ovulative |
| 5 | Joyful. "I don't like to be alone anymore." Feels quite active. Is afraid of this mood which is not submissive. "I will boss them around" | Libidinous. Need for close contact | High estrogen. Ovulative (?) | 4-5. Folding. Aggregation | | Estrogen. Progesterone. Postovulative |
| 6 | Dependence. Fear of losing boy friend. Wants to hide this worry; acts superior | Dependence. Heterosexual tendency | Estrogen. Progesterone Postovulative | 4-5 | | Estrogen. Progesterone. Postovulative |
| 7 | No analytic material | | | No smear | | |
| 8 | Is "cross"; critical of girl friend; very narcissistic. DREAM: analysis a painful birth; got scratched and hurt; has to be disentangled. Birth symbolism: always new, and new children; they have it easier with mother than she had | Mother-conflict. Birth symbolism. Rivalry. Narcissism | Progesterone | 4-5-6. Folding. Aggregation | | Estrogen. Progesterone dominant |
| 9 | No analytic material | | | 5-6 | | Progesterone |

CASE VIII, CYCLE XX—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|--|--|------------------------|------------------|----------------------------------|
| Jan. 10 | Has not felt well since last hour. Tries to become sick and does not succeed. Feels mean. <i>DREAM</i> : Depressed feeling of frustration. "I don't succeed in normal adult heterosexual life, thus I have to go back to infantile incestuous sexuality" | Heterosexual tendency. Regression. Narcissism. Dependence | Estrogen and progesterone decline | 5-6. More bacteria | | Progesterone |
| 11 | Feels mean. Does not like anyone; cannot stand her girl friend around her. <i>DREAM</i> : 1) Aggression toward niece because of enuresis. Identification with niece. Punishment because of own enuresis. 2) Impregnation fantasy. Wish to have a boy child | Withdrawal of object libido. Eliminative tendency. Heterosexual tendency in identification with boy on level of enuresis | Estrogen and progesterone decline | 5-6-7. Degeneration | | Progesterone decline |
| 12 | Is still angry. Defensive and narcissistic toward men as well as toward homosexual friend | Hostility. | Low hormone level | 5-6-7. Degeneration | | Progesterone decline |
| 13 | No material | | | 6-7 | | Minimal progesterone |
| 14 | Disappointed and nagging. <i>DREAM</i> : 1) Sexual play with brothers. "mad at them." 2) Quarreling with mother. 3) Playing the role of being the "understanding wife" | Heterosexual tendency. Mother-conflict. Sexual activity on incest level (brother incest) | Estrogen. Progesterone low level. Premenstrual | No smear | | |
| 15 | No material | | | 6-7-2 | | Low hormone level. Premenstrual |
| 16 | Angry. Irritable. Resistance against analysis. Defense against homosexual tendency. Wants to work actively in order to have better heterosexual adjustment | Hostility. Heterosexual tendency | Low hormone level. Estrogen. Premenstrual | 7-1-2 | | Incipient estrogen |
| 17 | No material | | | 7-1-2. (3). | | Incipient estrogen. Premenstrual |
| 18 | Friendly. Relaxed. <i>DREAM</i> : Wish to accept feminine role, to reconcile with mother, and to do the same—=washing dirty cloth. Vagina = washtub. Water = urine = menstrual blood | Eliminative tendency. Mother-identification | Progesterone decline. Late premenstrual | 7-1-2. More secretion | 98.3 | Slight decline of estrogen |
| 19 | Relaxed, friendly; no analytic session | | | 7. Marked degeneration | 98.5 | Low hormone level |
| 20 | Menstrual flow started. Passive, relaxed | | | Menstrual | | Low hormone level. Menstrual |
| 21 | No analytic session | | | Menstrual | 98.2 | Menstrual |
| 22 | <i>DREAM</i> : About father; demands on father who should provide for her. Angry because father is not good provider. Feels well, friendly, gay | Dependence. Receptive tendency | Low hormone level. Estrogen? | 7-1. Menstrual | 98.0 | Low hormone level |
| 23 | <i>DREAM</i> : Demand on father, in economic and sexual sense. Need for his attention and sexual gratification | Heterosexual tendency on oedipus level | Low estrogen | 1-2-3. Menstrual | 98.0 | Incipient estrogen |

TABLE 33

October 26—November 21

CASE IX, CYCLE II

Ovulative Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|--|---|-------------------------|------------------|---|
| Oct. 26 | Cheerful. Most of dream forgotten. <i>DREAM FRAGMENT</i> : Fear of heterosexual attack | Heterosexual tendency | Estrogen. Preovulative | #1-2-3 Leukocytosis | 98.0 | Increasing estrogen |
| 27 | Cheerful. <i>DREAM</i> : 1) Heterosexual. Wish to reconcile with mother, as protection against heterosexual wishes. 2) Homosexual tendencies | Heterosexual tendency. Dependence. Mother-conflict | Estrogen plus progesterone. Preovulative | No smear | | |
| 28 | Fear and admiration of brother | Heterosexual tendency | Estrogen | | | |
| 29 | Defense against castration wish and also against wish to be impregnated. Projection of her own sadistic impulses. "Mittelschmerz" | Impregnation tendency. Heterosexual tendency | Preovulative. Estrogen plus progesterone | "Mittelschmerz" | 97.0 | |
| 30 | No material | | | #2-3-4 | 97.4 | Increasing estrogen |
| 31 | No material | | | #3-4-5 | | Estrogen. Minimal progesterone |
| Nov. 1 | 1) Heterosexual tension; 2) Impregnation as oral demand | Heterosexual tendency. Oral-receptive and impregnation tendencies | Estrogen plus progesterone. Preovulative | #(3)-4-5. | 98.0 | Estrogen. Minimal progesterone. Preovulative |
| 2 | Suffocating; fear of heterosexual attack of brother. Fear of pregnancy | Heterosexual tendency. Impregnation tendency | Preovulative. Estrogen. Progesterone | (3)-4-5. | 97.4 | Estrogen. Minimal proges- terone. Preovulative |
| 3 | Hypomanic flow of association. Happy, eager, animated | Relaxation | Postovulative | #4-5. Leukocytosis | 98.2 | Progesterone. Postovulative |
| 4 | Dream forgotten. Talks about her different fears | | No prediction | #4-5. Leukocytosis | 98.0 | Progesterone. Postovulative |
| 5 | Feels full and bloated. Worried and ill. Fear of poisoning—defense against impregnation | Receptive and retentive tendency | Progesterone | #4-5. Leukocytosis | 98.2 | Progesterone. Postovulative |
| 6 | No material | | | #5-6 | 98.1 | Progesterone dominant |
| 7 | No material | | | #5-6 | 98.3 | Progesterone dominant |
| 8 | <i>DREAM</i> : Heterosexual desire. Masochistic conception. Defense by aggression. Hostility toward sibling expressed by birth symbolism | Heterosexual tendency (regression). Aggression vs. mother and siblings (regression) | Estrogen and progesterone low level | #6-7-1 | 98.3 | Progesterone diminished |
| 9 | Fear of loneliness and death. Talks less | Regression | Low hormone level | #6-7-1 Leukocytosis | 98.0 | Low hormone level |
| 10 | Fear of being left alone while satisfying oral wishes. Craving for sweets. Infantile dependence | Oral receptive tendency and dependence (regression) | Low hormone level | #6-7-1. Leukocytosis | 98.2 | Low hormone level |
| 11 | Homosexual feelings projected to mother. Fear of insanity. Fear of mother-identification i.e. of playing sexual role of mother | Defense against mother-identifi- cation on genital level | Estrogen. Premenstrual | #7-1 (2) | 98.2 | Incipient estrogen. Premenstrual |
| 12 | Nausea, colitis. Regressed and relaxed. Takes care of her little nephew without conflict. Heterosexual desire | Eliminative tendency and motherliness | Estrogen increased. Progesterone decline | #7-1-2 | 98.1 | Slightly increased estrogen |
| 13 | No analytic material | | | No smear | | |
| 14 | Menstruation started. No analytic hour | | | #7-1 | 98.1 | Low hormone level. Menstrual |
| 15 | <i>DREAM</i> : fascinated by and afraid of man and penis | Heterosexual tendency | Estrogen increased | No smear | | |

CASE IX, CYCLE II—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|--|------------------------|------------------|------------------|-------------------|
| Nov. 16 | Upset. Provokes husband and is sorry for herself | Hostility. | Decline in estrogen | | | |
| 17 | Oral material: fear of poisoning, dependence on mother, nursing. Fear of impregnation | Receptive tend- ency on oral and genital level. Motherliness | Progesterone like | | | |
| 18 | Heterosexual tension. <i>DREAM</i> : Fear of being attacked sexually by father. Conflict very intense. Va- ginal symbolism | Heterosexual tendency on oedipus level. Eliminative tendency | Estrogen | | | |
| 19 | Fear of impregnation. Fear of father. Fear of poisoning, oral reac- tion to impregnation tendency | Receptive tendency on oral and genital level | | | | |
| 20 | Increasing fear. Colitis | | | | | |

TABLE 34

March 31—May 25, 1938

CASE IX, CYCLE VIII

Anovulatory Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|--|---|---------------------------|------------------|--|
| Mar. 31 | Somewhat tense. <i>DREAM</i> : Offers genitals (symbol) for repair. Het- erosexual transference in dream | Heterosexual tendency | Estrogen | #2-3-(4). Leukopenia | 97.8 | Estrogen. Preovulatory |
| April 1 | No analytic session | | | #2-3-4. Leukocytosis | 97.4 | Estrogen. Preovulatory |
| 2 | No analytic session. Feels better: quiet, happy, less fear | | | No smear | | |
| 3 | No analytic session | | | #3-4-5. Leukopenia | 97.6 | Increased estrogen. Minimal pro- gesterone. Preovulatory |
| 4 | Stomach ache last night. <i>DREAM</i> : Fear of being attacked, robbed; running upstairs. Another symbol showing increasing tension | Heterosexual tendency | Estrogen (Preovulatory) | #(3)-4-5 | 97.4 | Estrogen. Progesterone |
| 5 | Analytic material: identification with mother on masochistic level. Material otherwise superficial, not characteristic | Mother-identi- fication. Masochistic tendency | Progesterone and estrogen | #3-4-(5) Desquamation | 97.2 | Slight decline in both hormones |
| 6 | Pain in lower abdomen. Enuresis, fear of the pain. Feels she wants to open lower abdomen, dig into it, or remove the contents. Masturba- tory tendency. Tense, genital awareness | Eliminative tendency. Aggression | Estrogen and progesterone decline (?) | No smear | | |
| 7 | Strangeness, depersonalization. Heterosexual fantasy related to brothers | Heterosexual tendency. Narcissism (?) | Estrogen. Progesterone | #3-4-5 | 97.8 | Estrogen plus progesterone |
| 8 | No analytic material | | | #3-4-5-6. Leukocytosis | 98.0 | Estrogen plus progesterone. (no ovulation) |
| 9 | Feeling of strangeness. <i>DREAM</i> : Dependent and helpless, jealous and curious about sister's life situa- tion. Aggressive tendencies directed toward sister | Aggression. Dependence. Heterosexual tendency | Estrogen. Progesterone | 3-4-5-6 Leukocytosis | 98.0 | Estrogen plus progesterone |
| 10 | No analytic material | | | #4-5-6 | 97.8 | Estrogen plus progesterone |

CASE IX, CYCLE VIII—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-------------|--|---|---|------------------|------------------|---|
| April 11 | Feels very frigid, dissatisfied. Expectation of pain and fear of being like her mother dominate this session | Masochistic conception of femininity. Defense against mother-identification | Progesterone | #5-6-7 | 97.4 | Progesterone dominant but low |
| 12 | Shooting pains. Talks about her suffering which is related to menstruation and is partly wish and partly defense against her pregnancy wish on incestuous basis. DREAM: Oral impregnation. She is like a baby | Oral receptive and genital receptive tendency. Identification with child | Progesterone | 5-6-7 | 98.0 | Progesterone dominant |
| 13 | Talks about her steady suffering. Defense against her heterosexual wishes. Sexual play with brother (analytic material). DREAM: 12-13, Conflict between dependence on parents and wish to be independent | Heterosexual tendency. Dependence | Estrogen and progesterone. Premenstrual | 5-6-7 | 98.6 | Progesterone dominant |
| 14 | Feels fairly well. DREAM: Preparation for menstruation. 1) Fear of pain; 2) heterosexual and exhibitionistic tendencies are inhibited. There is oral, as substitute for genital gratification | Heterosexual tendency. Exhibitionistic tendency. Eliminative and receptive tendencies | Estrogen and progesterone decline. Premenstrual | #6-7-1-(2) | 98.6 | Low hormone. Incipient estrogen. Premenstrual |
| 15 | No analytic material | | | #6-7-1-(2) | 98.6 | Low hormone. Incipient estrogen |
| 16 | No analytic material. Was very passionate; had nightmare | Heterosexual tendency | Increasing estrogen | No smear | | |
| 17 | No analytic material | | | No smear | | |
| 18 | Feels very heavy. Depressed, stayed in bed. (Reaction to quarrel with husband.) Impulse to touch the penis of a baby boy. Fears own aggression | Heterosexual tendency. Masculine identification but on infantile level | Estrogen | #7-1-2-3 | 98.0 | Increased estrogen |
| 19 | DREAM: 1) Conflict with mother because she (mother) is sick. Wish to reconcile the mother and have her protection; 2) Pregnancy; 3) heterosexual desire. Impulse to be sexually aggressive toward baby. Brother-identification | Heterosexual tendency. Dependence | Estrogen | #1-2-3-(4) | 97.8 | Increased estrogen |
| 20 | DREAM: Identification with man = to protect the baby against sexual attack. Identification with the attacked baby girl | Heterosexual tendency. Dependence | Estrogen increased. Premenstrual | 7-(1)-2-3 | 97.0 | Estrogen |
| 21 | Nervous, afraid. No analytic hour | | | No smear | | |

TABLE 35

August 10—September 1

CASE IX, CYCLE XIII

Irregular Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|---|---|--|------------------|---|
| Aug. 10 | Heterosexual desire yesterday; the same today. Feels ungratified; identification with suffering mother: "I needed protection—not to scream that fellow's name." Sado-masochistic fantasies connected with coitus | Sado-masochistic tendency. Heterosexual tendency | Estrogen | #2-3-4 | 98 | Estrogen |
| 11 | Abdominal pain, cramps, diarrhea. Fear of masturbation, because of her unsatisfied sexual need. Analytic material: defense against masturbation guilt | Heterosexual tendency. Eliminative tendency (?) | Estrogen | #2-3-4. Leukocytosis | 98 | Slight estrogen decline |
| 12 | Heterosexual desire (still no gratification) Forgotten DREAM, Masturbatory—orgasm. Impulse to touch a baby sexually | Heterosexual tendency | Estrogen | #3-4 | 97 | Estrogen |
| 13 | Coitus previous night Pain, vaginismus. DREAM: heterosexual desire. Repetition of conflicts about primal scene | Heterosexual tendency | Estrogen | #3-4 | 97.2 | Increased estrogen |
| 14 | Increasing tension, very nervous, desire to jump out of the window | Preovulatory tension | Estrogen | #3-4 | 97.4 | Estrogen |
| 15 | DREAM: "Somebody is killed." Fear of being shut in, masochistic conception. Hiding, need for protection. Womb symbolism | Heterosexual tendency. Dependence | Estrogen. Minimal progesterone | #3-4-5. Leukopenia. More mucus | 98.1 | Estrogen plus minimal progesterone |
| 16 | Fear of being poisoned. DREAM: great dependence,—fear of being left alone. Longing for brother as sexual object and as protection against sex | Oral receptive and heterosexual tendency. Dependence | Estrogen. Progesterone. Preovulatory | #3-4-5. Leukocytic invasion | 98.1 | Estrogen plus minimal progesterone |
| 17 | DREAM: quiet, waiting and watching analyst-father. Relaxed during the hour | Passive receptive libido tendencies | Estrogen. Postovulatory (?) | #4-5. Leukopenia | 97.4 | Increased estrogen plus progesterone. Ovulatory |
| 18 | Abdominal cramps. DREAM: mourning for her father, defense against oedipus wish. Chiefly oral material. Oral regression: also heterosexual tendencies expressed on oral level | Heterosexual tendencies. Oral receptive tendency as substitute for genital receptive tendency | Estrogen and progesterone. Postovulatory | #4-5. Leukocytic invasion | 98.3 | Increased estrogen plus progesterone. Postovulatory |
| 19 | Diarrhea; right foot feels numb. Heterosexual fantasies connected with her phobia. Self-consciousness; regressive habits—"like a child or imbecile"—to deny heterosexual need and excitement. This is connected with anal gratification | Heterosexual tendency. Narcissistic attitude. | Estrogen and progesterone decline | #4-5-6-7 | 98.1 | Slight decline in hormone production |
| 20 | No material | | | #5-6-7. Minimal folding. Aggregation | 98.4 | Progesterone decline |
| 21 | DREAM: Nightmarish fear of mother; a baby-monkey-herself abandoned to mother's aggression. Fear of mother in two senses. Intercourse last night | Mother-conflict. Dependence Fear of mother's aggression | Progesterone | #5-6-7 Minimal folding. Aggregation | | Protestosterone decline |
| 22 | DREAM: Dancing as narcissistic gratification. Defense against heterosexual danger. Relaxation | Narcissism and heterosexual tendencies | Estrogen. Progesterone | #6-7 | 97.3 | Further decline of progesterone |
| 23 | Diarrhea. DREAM: Identification with baby. Brother has sexual desire toward baby. Being seduced and loved is the narcissistically concentrated feeling of the dream | Narcissism. Heterosexual tendencies on level of brother incest | Estrogen and progesterone. Premenstrual | #6-7. Degeneration. | 98.3 | Decline of progesterone |
| 24 | Long elaborated DREAM: 1) Identification with mother. 2) Being as a child in bed with parents. 3) Urinary eliminative tendency | Regression. Eliminative tendency | Premenstrual. Progesterone decline | #6-7-1. Much more desquamation. Degeneration | 98.3 | Low hormone level. ? incipient estrogen |

CASE IX, CYCLE XIII—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPERATURE | HORMONAL STATE |
|---------|---|---|---|---|-------------|--|
| Aug. 25 | Feels better; analyzing the dream about enuresis. Fear of being punished by mother. Sensitive, narcissistic. No heterosexual material | Passive dependence on mother. Eliminative tendency | Progesterone declining | #7-1-(2) Minimal folding and aggregation. More leukocytosis | 98.1 | Low hormone level. ? incipient estrogen |
| 26 | DREAM: Fear of being attacked sexually. Increasing tension expressed as flying—but she reaches the place of protection | Heterosexual tendency. Dependence | Estrogen and progesterone. Premenstrual | #6-7-1-2. Much more folding. Occasional R.B.C. | 98.1 | Incipient estrogen. Premenstrual |
| 27 | Continuation of the same fear,—premenstrual tension | Conflict between heterosexual tendency and dependence | Premenstrual. Estrogen | #7-1. More debris | 98 | Low hormone level |

August 28 to and including September 1.
No slides or psychoanalytic material.

TABLE 36

September 20—October 25

Ovulative Cycle.

CASE XI, CYCLE III.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPERATURE | HORMONAL STATE |
|----------|--|---|--------------------|-------------------------|-------------|--|
| Sept. 20 | Menstrual flow 9/9 to 9/20. Eleven days. Dysmenorrhea. She has to stay in bed; nervous, upset | | | | | |
| 21 | Gives account of vacation, was "grand," but she had dysmenorrhea; anxious to come back to analysis, realizes her sex repression, her envy and jealousy, especially toward sister figures, who have more sexual freedom than she has | | No prediction | | | |
| 22 | Is able to defend herself, but is aware of great need for love and recognition. Transference: passive, dependent | Dependence. Heterosexual tendency | Estrogen | | | |
| 23 | Critical toward fiancé, guilt about hostility. Overcompensates by her protectiveness. Repetition of relationship with father. Wish to be proud of the father. Masochistic fixation. Identification with father is frustrated and causes the increase of inferiority and dependence | Heterosexual tendency on oedipus level. Masochistic identification. | Estrogen | #2-3-4 | 97.4 | Estrogen |
| 24 | No analytic material | | | #2-3-4 | 97.8 | Estrogen |
| 25 | No analytic material | | | #2-3-4 | 97.8 | Estrogen |
| 26 | Complaints and self-reproaches because of her inefficient work; self-criticism as a means of getting comfort and narcissistic satisfaction. Over-sensitive to criticism. Wish to be loyal. Masochistic fixation | Ego reactions | | #3-4-5. Desquamation | 97.8 | Increased estrogen. Incipient progesterone |
| 27 † | Talks about her day dreams. Inhibition to express heterosexual desire except in hidden day dreams. "Love life" day dreams. Adolescent expression because of inhibitions | Heterosexual tendency | Estrogen | #4-5. Leukopenia. Mucus | 97.8 | Estrogen. Minimal progesterone. Preovulative |
| 28 † | Irritable. Critical of fiancé, because he has so many inhibitions, and does not marry. The heterosexual desire is not expressed frankly, but is turned into aggression. Blames fiancé because she is not satisfied. Anger because of frustration | Heterosexual tendency. Aggression because of frustration | Increased estrogen | #4-5 | 97.4 | Estrogen. Minimal progesterone. Preovulative |

CASE XI, CYCLE III—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-------------|--|---|--|--|------------------|---|
| Sept. 29 | Feels better. Depression, anger, is "washed away." <i>DREAM</i> : wants to please mother-substitute. Fails, and a masochistic expectation develops. Associations: Wants to be loved; therefore does not show her real feelings, but is always "goody-goody." Need for passive dependent love. Related only to mother figure | Mother conflict Passive depend- ence related only to mother | Progesterone. Ovulative | #4-(5). More desqua- mation | | Estrogen. Progesterone. Ovulative |
| 30 | Depressed. Wants to talk but cannot. Negative transference reaction. Withdrawing because of analyst's interpretation: masochistic reaction and narcissistic overcompensation, being thwarted; self-pity | Dependence. Masochistic and narcissistic reaction | Estrogen. Progesterone | * 1-5-6 | 98.0 | Estrogen. Progesterone |
| Oct. 1 | No analytic material | | | #4-5. More aggre- gation and desquamation | | Estrogen. Progesterone dominant, like postovula- tive |
| 2 | No analytic material | | | No smear | | |
| 3 | No analytic material | | | #4-5-6. Little aggregation | 97.8 | Estrogen. Progesterone dominant |
| 4 | "Terrible mood" wearing patient out. Bitter and disappointed because her demands are not satisfied. Expresses her fantasies toward fiance, represses the transference fantasies. Depressive; complaints | Hostility because of frustration of receptive tendencies | Low hormone level | #6-7. Desquamation | 98.2 | Low hormone level |
| 5 | <i>DREAM</i> : 1) She is a "good girl" in grandmother's house and enjoys being loved. Regression to mother; reconciliation. 2) Step-mother, bad mother, knows that she is "bad girl" and has heterosexual desire to go out with other man. Guilt because of heterosexual desire. Death wish; expectation of punishment. Talks about overeating and conflict about it | Dependence. Receptive tendencies. Heterosexual tendency. | Low hormone level. Estrogen | No smear | | |
| 6 | <i>NIGHTMARE</i> : 1) Monkey—penis symbol, "monkeying" around—threatens her. 2) Fear of sexual attack is on manifest level. 3) Fiance is feminine. All men are women—castration tendency, depreciation of men. Associations: Other anxiety dreams, aggression toward penis as defense—Depression all day | Heterosexual tendency | Estrogen. Premenstrual reaction | #6-7 | 98.6 | Low hormone level |
| 7 | <i>DREAM</i> : Fear of "step-mother" (substitute); fear of punishment. Still depressed. Inferiority feeling: other girls smarter, more self-assured. Homosexual; feels observed, narcissistic, but negative | Negative narcissism. Masochistic toward step- mother | Low hormone level. Progesterone decline | #6-7 | 98.2 | Low hormone level |
| 8 | No analytic material | | | #6-7-8 | 98.8 | Low hormone level |
| 9 | No analytic material | | | #6-7-8 | 98.8 | Low hormone level |
| 10 | No analytic material | | | #7-8-1 | 98.6 | Low hormone level |
| 11 | <i>DREAM</i> : Guilt feelings toward fiance because of lack of real love. But guilt feeling also because of heterosexual wishes toward other men. Associations: Transference denial of heterosexual desire. Wish to be admired on the stage. Narcissistic desires | Heterosexual tendency. Exhibitionistic tendency. Narcissism | Estrogen and progesterone on low hor- mone level. Premenstrual reaction | #7-8-1. Leukocytosis | 98.4 | Low hormone level |

CASE XI, CYCLE III—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|---|---|-------------------------|------------------|----------------------------------|
| Oct. 12 | <i>DREAM:</i> 1) Patient ambitious, productive. Masculine identification. 2) Homosexual content. Active domination of girls. Masculine identification and narcissistic identification with dancing girl. 3) Masochistic heterosexual reaction to strong man—father | Heterosexual tendency on basis of masculine identification. Masochistic, passive heterosexual tendency on oedipus level. Narcissism | Estrogen and progesterone. Premenstrual reaction | #7-8. Leukocytosis | 98.6 | Low hormone level |
| 13 | <i>DREAM:</i> 1) Appreciation and depreciation of fiancé. 2) Fiance protects her from punishment. Defensive denial of transference | Heterosexual tendency. Hostility | Estrogen. Premenstrual reaction | #7-1-2 | 98.6 | Incipient estrogen. Premenstrual |
| 14 | Need for protection; greater dependence. Relation to fiancé only on basis of dependence. <i>DREAM:</i> Positive transference. Wish to be the beloved, exceptional child of father—analyst. Jealousy; sibling rivalry. Regression to eating. Eats uninterrupted. Inferiority feelings | Dependence. Receptive tendency. Heterosexual on infantile level | Estrogen. Progesterone decline. Low hormone level | #7-1-2 | 98.2 | Incipient Estrogen. Premenstrual |
| 15 | Menstrual flow started; stayed in bed all day, ill | | | #1-2. Occasional R.B.C. | | Low estrogen |

October 16 to and including 23rd.
Patient was ill, not only with dysmenorrhea but some strain of tendons. No psychoanalytic sessions or slides.

TABLE 37
October 24—November 23

CASE XI, CYCLE IV

Ovulative (?) Cycle.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|---|--|--------------------|------------------|---|
| Oct. 24 | No analytic material | | | No smear | | |
| 25 | Depression: Complains about her eyes, general condition. Envy other women; inferiority feeling | Negative narcissism | Low hormone level | No smear | | |
| 26 | Talks about her sensitiveness. Depressive; complaints which cover her guilt and desire to get all the attention from men, especially from "doctors" | Heterosexual tendency on basis of passive receptive need | Estrogen | No smear | | |
| 27 | <i>DREAM:</i> 1) Heterosexual content, wanted to forget it, ashamed to tell analyst. 2) Heterosexual desire. Penis symbol. Gives in to her desire. Also some Impregnation symbolism. Passive man put the responsibility for sex on her. She cannot take the responsibility. Desire for active, domineering man. Heterosexual transference | Heterosexual tendency. Impregnation tendency | Estrogen on high level. Minimal progesterone | #3-4. Desquamation | 97.2 | Estrogen. Preovulative |
| 28 | Exasperated, tense. Irritable toward fiancé. Provokes his aggression, then complains. Unsatisfied heterosexual desire. Analytic material the same as previous day | Heterosexual desire. Aggression because of frustration | Increased estrogen. Preovulative tension | #3-4-5-6 | 97.8 | Estrogen. Progesterone |
| 29 | <i>DREAM:</i> Heterosexual transference. Feels exposed. Remembers mostly the embarrassment. Masochistic reaction to exhibitionism. Less tension than previous day | Heterosexual tendency. Exhibitionistic tendency. Narcissism | Estrogen Progesterone. Ovulative | #4-5 | 97.8 | Increased estrogen. Progesterone. Ovulative |
| 30 | Discussion of her repressed transference; denial of it; projects it to another girl. Talks mostly about this other girl | Heterosexual tendency. | Lower hormone level. Estrogen | No smear | | |
| 31 | Inferiority feelings; self-reproaches because she is not efficient; envious of more successful girls. Sibling rivalry; mother will love the better-looking and working girl. Fear of losing love | Dependence. Receptive tendencies. Narcissism (negative) | Progesterone decline | #4-7 | 98.0 | Decline of hormones |

CASE XI, CYCLE IV—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|----------------|--|--|--|----------------------------------|------------------|--|
| Nov. 2 † | Discussion of her dependence. Fear of bad mother, masochistic fixation and receptive tendencies. Lack of object interest. Wants to be praised. Narcissistic receptive gratification from mother. Upset all afternoon | Dependence. Narcissism | Progesterone | #4-5 | 97.8 | Progesterone dominant. Estrogen |
| 2 | No analytic session. Hives on chest, thighs and legs | | | #3-4-(5) | 97.6 | Estrogen and progesterone like ovulative |
| 3 † | Usual complaints about her inefficiency, lack of love. Instead of love, dependence and reactive feeling of obligation because of receptive tendencies | Heterosexual tendency on basis of receptive tendency and dependence | Decline in estrogen and progesterone | #3-4-5-6 | 97.9 | Estrogen. Progesterone |
| 4 | Feels face peculiarly stiff. DREAM: Regressive tendency, looking for protection and pleasure in bathroom. It is permitted because it is clean. Overcompensation for dirt. Homosexual competition with other girl | Narcissism. Anal regression | Progesterone decline. Low hormone level | No smear | | |
| 5 | No analytic material | | | No smear | | |
| 6 | No analytic material | | | No smear | | |
| 7 | Wish to have heterosexual experiences with other men. Romantic fantasies. Always denies the wish; puts responsibility on analyst. Transference material; heterosexual desire. Envy and jealousy of other girl | Heterosexual tendency. Inferiority feeling. (Homosexual tendency) | Estrogen. Progesterone | No smear | | |
| 8 | Depressed last night; suicidal ideas. DREAM: 1) Homosexual desire. 2) Detected by father image who punishes her but accepts much worse, "crazy," sexual behavior from his wife. Envy and jealousy of step-mother. Oedipus material | Heterosexual tendency on masochistic oedipal level. Fixation to step-mother | Estrogen. Progesterone | #5-6. Aggregation and folding | 98.6 | Progesterone |
| 9 | Conscious of her resentments and envy toward girls. NIGHTMARE: Heterosexual desire. Identification with little girl. Repetition of primal scene experiences with sado-masochistic concept. Hives and headache | Heterosexual tendency on oedipus level. Dependence | Estrogen. Progesterone decline | #5-6-7. Leukocytosis | 98.4 | Progesterone decline |
| 10 | Hives. "Hives in throat." Feels boiling inside. Discusses actual problems. Inferiority feelings; guilt | Negative narcissism | Decline in hormone level | #5-6-7. Leukocytosis | 98.6 | Progesterone decline |
| 11 | No analytic material | | | #6-7-8 | 98.6 | Low hormone level |
| 12 | No analytic material | | | No smear | | |
| 13 | Very irritable. Defense against oral receptive tendencies. G.I. symptoms | Receptive tendencies | | No smear | | |
| 14 | Very irritable. Severe headache. Repeats conflicts about fiance. Wants to admire him but very critical toward him | Heterosexual tendency. Hostility | Estrogen on low level. Premenstrual | #6-7-1-2 | | Incipient estrogen. Premenstrual |
| 15 | No analytic session. Felt cross, mean, irritable | | | #7-1-2 Degeneration | 97.4 | Incipient estrogen. Premenstrual |
| 16 | Resentful, irritable. Pounding headache. Resistance; cannot talk. Depression. No material | | Low hormone level | #7-1-2. Degeneration | 98.0 | Incipient estrogen. Premenstrual |
| 17 | No analytic session. Menstrual flow started; was "sick," stayed in bed | Depressed Regression | | #7-8-1-(2) | | Low hormone level |
| 18 | No analytic session | | | No smear | | |
| 19 | No analytic session | | | No smear | | |

CASE XI, CYCLE IV—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------|---|---|-----------------------|------------------|------------------|-------------------|
| 20 | No analytic session | | | No smear | | |
| 21 | Is very sensitive. Envious and angry at all persons in her actual environment. Headache. Weeps during analytic session. Talks very little. Actually, she is very demanding | | Low hormone level | No smear | | |
| 22 | Very resistant, angry, and stubborn. Transference: negative feelings to Dr. B. and to analyst. Cries because her unconscious demands cannot be solved by analyst. DREAM: anger at fiancé and analyst. Self-destruction and punishment. Heterosexual symbolism | Heterosexual tendency. Hostility. Self-destructive tendency | Estrogen on low level | No smear | | |
| 23 | Feels thwarted by Dr. B. who did not satisfy her unconscious wishes and did not solve her life problem. DREAM: Guilt because of her temper tantrums. Wants to be good and sympathetic toward woman. Denial of hostilities toward Dr. B.=thwarting mother. Actual material therefore no hormone prediction | | | | | |

TABLE 38

November 22—December 23

No Cyclical Changes except during menstrual flow.

CASE XII, CYCLE III

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|---------|--|--|---------------------------------|------------------|------------------|---------------------|
| Nov. 22 | Demanding; mother transference; urge to possess things; generally dissatisfied; restless | Receptive tendency | Progesterone? Low hormone level | 2-3-(4) | 97.8 | Estrogen |
| 23 | DREAM: 1) Oral desire; relationship to sister; participating in eating; dependence on mother and fear of separation. 2) Dream about eating. Associations: fear of water, urinary symbolism | Dependence. Oral receptive tendency. Eliminative tendency | Low hormone level | 6-7 | | Low hormone level |
| 24 | No material | | | 7-8-1 | 97.6 | Low hormone level |
| 25 | No material | | | 7 | 97.8 | Low hormone level |
| 26 | DREAM: About mother and sister. Wish to go to toilet with mother. Toilet flushed, water overflowing. Toilet=vagina=rectum, fear of falling into toilet (infantile) | Anal regression. Eliminative tendency | Low hormone level | #7 | 97.8 | Low hormone level |
| 27 | No material | | | 7-1-2 | 97.8 | Incipient estrogen |
| 28 | Associations to dream on 26th. Phantasy: father and mother urinating together. Primal scene on urinary level. Fear of water | Heterosexual tendency on infantile level | Estrogen. Low hormone level | 7-1 | 97.5 | Low estrogen |
| 29 | Patient complains about being insatiable in her receptive wishes. She cannot stop reading, eating, etc. Envy of sister because of father's attention. Masochistic material re. father | Heterosexual tendency on Oedipus level. Receptive tendency | Estrogen | 7-1-2-3 | | Increasing estrogen |
| 30 | Sudden craving for chocolate. DREAM: Identification with mother. Association: Masochistic oedipus material: father treats mother badly, therefore, patient afraid of feminine sexuality | Heterosexual tendency on Oedipus level | Estrogen, low level | No smear | 97.6 | |

CASE XII, CYCLE III—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|--|--|---|------------------|------------------|-----------------------------------|
| Dec. 1 | Complains about being passive and lack of interest, indecisiveness as result of lack of object interest. Hives on left side of body | Withdrawal of object libido | Low hormone level. Decline of hormone | 6-7-1-2 | | Low hormone level |
| 2 | Fear of falling: falling into water, falling down stairs, etc. She connects this with knife phobia. Fear of feminine sexual role | Defense against feminine sexuality | Low estrogen. Low progesterone | 6-7-1-2-3 | 97.8 | Low estrogen Low progesterone |
| 3 | No material | | | 7-1-2-(5?) | 98 | Incipient progesterone |
| 4 | No material | | | 7-1-2-(5?) | 98.2 | Incipient progesterone |
| 5 | Hives. DREAM: 1) Regressive wish to be protected by mother, womb symbolism. 2) Jealousy re siblings. Wants to be alone with mother=analyst. 3) Heterosexual desire. Incest between father and daughter. Associations show heterosexual material very clear | Mother-conflict and heterosexual desire on oedipus level. Dependence | Estrogen and progesterone, low level | 6-7-1 | 97.8 | Low hormone level Progesterone |
| 6 | Homosexual transference — dependence on mother. Identification with mother in profession | Mother-conflict: Dependence on, and identification with, mother | Low hormone level. Progesterone | 6-7 | 98.1 | Progesterone. Low hormone level |
| 7 | About her weight. Infantile material about dependence and eating | Receptive tendency | Low hormone level. | 7 | 98 | Low hormone level |
| 8 | DREAM: Frank homosexual content but no sensation. Responsibility put on analyst—very narcissistic associations, awareness of body. More libidinous than previously | Narcissism. Homosexual tendency | Estrogen (?). Progesterone | 7 | 97.9 | Low hormone level |
| 9 | DREAM: 1) Her wedding party. 2) Heterosexual act, murder. The man in the dream is her brother. Heterosexual desire on level of brother incest | Passive, masochistic concept of female sexuality. Heterosexual tendency on infantile level | Premenstrual. Estrogen | 7-1-2 | 98.3 | Incipient estrogen. Premenstrual |
| 10 | DREAM: 1) Regressive desire to be home and protected. 2) Fear of being attacked by intruders. Older sister protects her. The conflict is same as previous day but less emotionally charged | Dependence | Decline of hormone | 7-1 | 98.2 | Low hormone level |
| 11 | No material | | | 7-1 | 98.4 | Low hormone level |
| 12 | No material | | | 7-1 | 98.6 | Low hormone level |
| 13 | Depressed, annoyed, upset, and feels sorry for herself | Dependence. | Low hormone level | 7-1 | 98.3 | Low hormone level |
| 14 | Depression disappeared after analyst gave her reassurance. She talks only of actual problems, craving for analyst's support | Dependence | Low hormone level | 7-1 | 98.4 | Low hormone level |
| 15 | Masturbated. Wish to have a baby. Fear of abortion. Aggression toward women. Infantile concept of childbirth—per anum | Sexual tendency. Eliminative tendency on anal and genital level | Incipient estrogen. Decline of progesterone. Premenstrual | 7-1-2 | 98.2 | Incipient estrogen. Premenstrual |
| 16 | Completely superficial material. Unimportant details. Feels very insecure | Dependence | Low hormone level | 6-7-1 | | Decline of hormone |
| 17 | DREAM: Very dynamic. 1) Regressive desire to be with mother in kitchen. Mother's sexuality. 2) Father dies. 3) Heterosexual attack. She is fighting. Strong sensation of erected penis. Menstrual flow started after the session | Heterosexual tendency. Dependence | Estrogen. Premenstrual reaction | 7 | | Low hormone level |

CASE XII, CYCLE III—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|--|--|---|------------------|------------------|---|
| Dec. 18 | No analytic material | | | 7-1-2-3 | | Estrogen. Menstrual |
| 19 | Patient in amiable mood. Guilt because of spending money. Record incomplete | | No prediction | 2-3-(4) | | Increasing estrogen |
| 20 | Still menstruating; clots and cramps. Talks about heterosexual affairs of other people. Sexual curiosity and projection of her own desires. Curiosity about mother | Heterosexual tendency. Sex curiosity re mother | Estrogen. Minimal pro- gesterone | 3-4-(5) | | Estrogen. Incipient progesterone |
| 21 | Menstrual flow is over. Trip for purpose of getting a job. Over-sleeping. <i>Suddenly she feels upset.</i> Anxiety because she does not know what to do professionally in the next six months | Withdrawal of object libido | Decline of hormones | (5) 6, 7, 1 | 97.4 | Progesterone. Decline of estrogen |
| 22 | Thinking about money and spending. Fantasy about being mentally sick. Defending herself against being crazy. Sleeping; complains of vaginal smears. She was not such an oversleeper as a child. She thinks she is more at ease talking to a married man than to an unmarried one | Negative narcissism. Defense against heterosexual tendency | Decline of hormones. Low hormone level | 6-7 | 97.6 | Progesterone. Decline of hormone |
| 23 | Talks mostly about dinner parties; shopping; being late. Associations about mother, home, <i>mother's grave</i> , depression | Dependence on mother | Same. Low hormone level | 6-7-1 | 97.7 | Low hormone level |

TABLE 39

Ovulative during the menstrual flow.

CASE XII, CYCLE VIII

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-------------|--|---|---|---|------------------|---|
| April 14 | Notes only about analyst's interpretations—cannot be evaluated | | | 7. Mucified and degenerated | 98 | Low hormone level |
| 15 | No analytic material | | | 6-1-7. Occasional basal cell | 97.8 | Low hormone level |
| 16 | <i>DREAM:</i> 1) Death wish re mother and sisters. Resentful because no gratification from father. 2) Womb symbolism. Heterosexual tendency on oedipus level. Mother conflict. Dependence | Heterosexual tendency on oedipus level. Dependence | Low estrogen. Low progester- one | 6. Bacterial invasion | 97.8 | Low hormone level. Proges- terone |
| 17 | <i>DREAM:</i> Vague. Heterosexual desire and increased defense against it. Associations lead to mother's pregnancy | Heterosexual desire. Pregnancy material on infantile level | Progesterone and estrogen, both on low level | 6 Bacterial invasion | 97.9 | Low hormone level. Progesterone |
| 18 | Talks about actual problems, very infantile and dependent on analyst | Dependence | Low hormone level | 7. Few cells with pyknotic nuclei #3 | 97.8 | Incipient estrogen |
| 19 | <i>DREAM:</i> Analytic situation—homosexual atmosphere. Identification with analyst. Rants about brother. Wish to kill him. Aggression toward brother is projection of fear of being attacked sexually | Heterosexual tendency. Homosexuality is protection against hetero- sexual tendency | Incipient estrogen | | | |
| 20 | Resistance. Homosexual attachment to analyst. Inferiority feelings. Patient is not a lovable person, therefore her long lasting attachments in order not to lose love | Dependence. Inferiority feelings | Decline in hormone pro- duction | 3-4. Degener- ated. Occa- sional basal cells | 97.7 | Decline in estrogen pro- duction |

CASE XII, CYCLE VIII—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------------|--|---|--|---|------------------|--|
| April 21 • | DREAM: Awoke with orgasm. After parturition the mother is "messy" but happy with the baby. After the dream during the whole day she felt remote like someone would after delivery | Narcissism. Mother and child relationship. Anal regression? Withdrawal of object libido | Progesterone | Aggregated basal cells | 98 | Very low hormone level |
| 22 | Talks mainly about professional problems | | Low hormone level | 7 (entirely) | 97.6 | Low hormone level |
| 23 | No analytic material | | | 6-7 | 97.8 | Low hormone level |
| 24 | Inferiority feelings. They are actually so great that she becomes panicky if she is to meet a man socially | Inferiority feeling. Negative narcissism | Low hormone level | 6-7, with more secretion | 97.8 | Low hormone level |
| 25 | DREAM: Sexual curiosity. Discussion of clothes problem. Material is scanty; therefore no evaluation. The problem of clothes is activated by her actual problem of preparing herself for a date | Narcissism | | 5-6-7 | 97.6 | Estrogen. Progesterone dominant |
| 26 † | Conscious heterosexual desire activated by actual experience therefore heightened desire | Heterosexual tendency | Estrogen | 6-7. Mucified debris of cornified cells | 97.9 | Decline in estrogen and progesterone |
| 27 | DREAM: Self castration, bisexual symbolism. Increased oral receptiveness. The dream expresses the idea that a woman is a castrated man | Defense against being a woman. Penis envy | Estrogen, like premenstrual | More desquamation | 98.2 | Decline in estrogen |
| 28 | Talks superficially about many people. No characteristic material | | Low hormone level | 7 | 98.2 | Low hormone level |
| 29 | Patient prepares herself to meet a young man. It is no libidinous need | | Low hormone level | 7 | 98.3 | Low hormone level |
| 30 | DREAM: Brother incest. Fantasy about sexual activity and gratification which she had not permitted in reality | Heterosexual tendency | Estrogen | 7-1-2-3 | 98.4 | Estrogen |
| May 1 | No analytic material | | | | | |
| | No analytic material | | | 7-8-1 | 98.2 | Decline to low hormone level |
| 2 | No analytic material | | | 7-8-1 | 98.2 | Low hormone level |
| 3 | Talks about actual experiences. Depressed, feels inefficient, no interest, cannot work, etc. Anxiety | Depression, lack of object libido | Low hormone level | 7-8-1 | 98.2 | Low hormone level |
| 4 | Anxiety, urinal urgency. Diarrhea. DREAM: Vaginal symbolism. Inferiority feeling. Women are crazy. Anxiety is reaction to heterosexual activity | Eliminative tendencies. Negative narcissism. Heterosexual tendency | Incipient estrogen. Declining progesterone. Premenstrual | 7-1-2. Occasional basal cell | 98.2 | Incipient estrogen. Premenstrual |
| 5 | Diarrhea. Tired physically and mentally. Suicidal ideas. Anxious and aggressively tense | Aggression turned toward herself. Eliminative tendency | Low hormone level. Premenstrual reaction | 7, entirely | 98.4 | Low hormone level |
| 6 | No analytic material | | | 1-2. Secretion | 98.2 | Incipient estrogen |
| 7 | No analytic material | | | 7. Aggregated debris | 98.2 | Decline in estrogen |
| 8 | No analytical material | | | 6-7-1-2 | 98 | Incipient estrogen and decline in progesterone |
| 9 | DREAM: Denial of heterosexual desire. Defense against heterosexual danger; to castrate the man. Menstrual flow | Heterosexual tendency | High estrogen (relatively). Premenstrual reaction | 7-1-2-(3) | 97.4 | Menstrual flow Slightly more estrogen |
| 10 | No analytic material | | | 1-2-3-(4). 50% cornification | 97.6 | Estrogen |

CASE XII, CYCLE VIII—(Concluded)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|---|---|---|------------------|--|
| May 11 | Very libidinous transference material. Admiration for and dependence on analyst. Sibling rivalry. Denial of heterosexual desire | Heterosexual tendency, libido increased. Homo- sexual tendency | Estrogen and Progesterone | 90% cornification, minimum folding. Flow continued | 97.6 | Like late preovulatory. Estrogen and progesterone |
| 12 | Spontaneously comes back to heterosexual material. Castration wish as defense; unconscious rape fantasies | Heterosexual tendency | High estrogen | 3-4-5. Flow very abundant | 97.6 | Ovulatory? Estrogen. Progesterone |
| 13 | Dependence on analyst and on family. Curiosity about analyst. Chiefly narcissistic material | Dependence. Narcissism | Progesterone like postovu- lative | Aggregation | 97.6 | Like postovu- lative. Estrogen. Progesterone |

TABLE 40

May 14—June 9

"Reversed Cycle."

CASE XII, CYCLE IX

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|---|--|------------------|---|
| May 14 | No material | | | 4-5-6. Bacterial invasion | | Progesterone dominant |
| 15 | Discusses her homosexual reaction. Defense against homosexuality by aggression. Sibling rivalry | Homosexual tendency. Hostility | Progesterone | No smear | 97.8 | |
| 16 | DREAM: Homosexual transference. Analyst = great mother. Oral demands. Deprivation. Aggression and rescuing tendencies toward analyst | Homosexual tendency. Oral receptive tend- ency. Hostility | Decline to low hormone level | 7-2-2 | 97.6 | Low hormone level |
| 17 | Excessive need for sleep. Talks about her sleeping habits. Withdrawal, narcissism | Withdrawal of object libido | Low hormone level | 7. Mucified debris | 97.6 | Low hormone level |
| 18 | Feminine identification with inferiority feelings because of masturbation. Pregnancy fear; very depressive | Sexual tension | Estrogen | 7-1-2-3. Beginning of of pyknosis | 97.6 | Incipient estrogen |
| 19 | Defense against heterosexual desire. She is afraid of it, wants to avoid it | Heterosexual tendency | Estrogen | 2-3-4. Minimal cornification. More leuko- cytes | 97.6 | Estrogen |
| 20 | No analytic session. Heterosexual experience but no coitus | | | 3-4-5 | 97.5 | Minimal progesterone. Increased estrogen |
| 21 | No analytic session | | | 4-5-6 | 98.2 | Luteinization of unruptured follicle |
| 22 | She is gay. Defense against heterosexuality. Wants the insecure man who will not attack her. Heterosexual fantasy as substitute | Heterosexual tendency (defense) | Decline of estrogen | 6-7. Mucified debris | 97.6 | Decline of hormones |
| 23 | No analytic material | | | 5-6-7 | 97.6 | Increased progesterone |
| 24 | Inhibited talk about her experience on May 20. Longing. Sense of frustration because of own inhibitions. Vague heterosexual desire | Heterosexual tendency | Decline of estrogen. Low hormone level | 6 | 98.2 | Declining progesterone |
| 25 | DREAM: Masculine identification. Wants to be the giving person but is inhibited. Wants to be receptive to men, but afraid; reverses the oral impregnation wish into oral giving, which she cannot fulfill | Conflict between impregnation wish and mascu- line identification | Low estrogen. Minimal progesterone | 7 | 98.2 | Decline of hormone production |

TABLE 41

November 5—December 3, 1938

CASE XIII, CYCLE VI

Ovulative (?) Cycle. In this case the heterosexual tendency is like a little girl's erotic feeling.

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|-----------|---|--|--|------------------------------------|------------------|--|
| Nov. 5 | Still menstruating. Complains about incapability of feeling like a mature woman. Feels more satisfied, freer; less depressed than she used to feel in the fall of other years | | | #6-7-1. Menstrual | 97.6 | Low hormone level |
| 6 | No analytic session | | | #6-7-1 | 98.0 | Low hormone level |
| 7 | No analytic session | | | #6-7-1. Mucus | 97.8 | Low hormone level |
| 8 † | DREAM: Exhibitionistic and heterosexual wish. Wants to be envied by other girl for an uninhibited sex life. Masochistic tendency | Heterosexual tendency. Masochistic tendency | Estrogen | #7-1. Mucus. Leukocytosis | 97.8 | Low hormone level. End of menstrual flow |
| 9 | Talks about masturbation; guilt. Blames it on the fact that she was not petted as a child, did not get attention. Cries | Dependence. Negative narcissism | Low hormone level | #7-1. Occasional red blood cell | 97.4 | Low hormone level |
| 10 | No analytic session | | | #7-1. Occasional R.B.C. | 97.8 | Low hormone level |
| 11 | Irritability, general anger. Envy of little boys. Mistrust: Doctors take advantage of her | Anger, hostility. Heterosexual tendency | Low hormone level. Incipient estrogen | #7-1. Occasional R.B.C. | 97.8 | Low hormone level |
| 12 | No analytic material | | | #1-2-3 | 97.8 | Incipient estrogen |
| 13 | No analytic material | | | #1-2-3 | 98.0 | Incipient estrogen |
| 14 | Heterosexual transference. Gratefulness. Dependence. Defense against heterosexual desire; competition and criticism toward men | Heterosexual tendency | Estrogen, low level | No smear | | |
| 15 | Often feels like crying because of frustration. Wants to be attractive to men | Heterosexual tendency. Narcissism | Estrogen | No smear | | |
| 16 | Still talks about her desire to be pretty and attractive. Masturbation. Skin eroticism | Heterosexual tendency. (Narcissism) | Estrogen | No smear | | |
| 17 | No analytic session | | | #2-3-(4) | 97.6 | Estrogen |
| 18 | Sleepless, depressed, headache. Wish: something would be cut out of her body. Wish to castrate herself, not to feel frustration | Heterosexual tendency. Aggression | Estrogen, higher level | #2-3-(4) | 97.6 | Estrogen |
| 19 | No analytic session | | | #2-3-(4) | 97.4 | Estrogen |
| 20 | No analytic session | | | #3-4 | 98.0 | Increased estrogen |
| 21 | Consciousness of body. Bashfulness. Reaction to masturbation: guilt. But feels freer and better | Heterosexual tendency. Narcissism | Estrogen | #3-4 | 97.4 | Increased estrogen |
| 22 † | Headache. Cries. Resentment toward parents and siblings, because she did not get attention and recognition of her body | Narcissism. Dependence | Progesterone | #3-4 | 97.4 | Estrogen |
| 23 † | Keen awareness of man's genitalia. Heterosexual transference, longing. Feeling of frustration. Cries | Heterosexual tendency | Estrogen | 3-4-(5) | 97.6 | Estrogen and incipient progesterone |
| 24 | No analytic session | | | #3-4-5 | 98.6 | Estrogen Progesterone. Ovulation? |
| 25 | Vivid DREAM about sexual "attack." The man attacking her is her sister's friend. Brother-protector-incest. Defense against sex envy. Homosexual tendency as defense against heterosexuality | Heterosexual tendency. Homosexual tendency | Estrogen. Progesterone | #4-5 | 97.8 | Estrogen. Progesterone dominant, like postovulatory |

CASE XIII, CYCLE VI—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPERATURE | HORMONAL STATE |
|---------|--|--|---|-----------------|-------------|------------------------------|
| Nov. 26 | No analytic session | | | #4-5-6 | 98.4 | Estrogen Progesterone |
| 27 | No analytic material | | | #4-5-6 | 97.8 | Estrogen Progesterone |
| 28 | Quarrelsome, sensitive to criticism Lack of love for sister. Romantic fantasies about perfect marriage | Dependence. Hostility. Heterosexual tendency | Premenstrual reaction. Estrogen declining. Progesterone | #4-5-6 | 97.6 | Estrogen Progesterone |
| 29 | Menstrual flow started yesterday (she reports). Extremely sensitive. Feels rejected by analyst | Negative narcissism. Dependence | Low hormone level | #6-7-1 | 97.6 | Low hormone level |
| 30 | Still has headache. Extreme defense against the slightest interest a man might show in her. Wants to be attractive | Defense against heterosexuality. Narcissism | Premenstrual reaction | #6-7-1 | 97.8 | Low hormone level |
| Dec. 1 | No analytic session | | | #7-1. R.B.C. | 97.6 | Low hormone level. Menstrual |
| 2 | Preoccupied, as if obsessed by thinking of man she rejected on 11/30. Envy of sister | Heterosexual tendency | Estrogen | #7-1. R.B.C. | 97.4 | Menstrual |
| 3 | No analytic session | | | More secretion | 97.8 | Menstrual |

TABLE 42

CASE XIII, CYCLE VII December 4—January 9, 1939 Insufficient Progesterone Phase

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPERATURE | HORMONAL STATE |
|--------|---|--|---|----------------------|-------------|---------------------------------------|
| Dec. 4 | No analytic session | | | #7 | 98.6 | Low hormone level |
| 5 | Headache. Feels better in company. Wish to separate from analyst | Heterosexual tendency? | Low hormone level | #7 | 97.4 | Low hormone level |
| 6 | Critical, irritable. Aggressive impulse toward brother. Phobic defense. The same reaction toward mother | Hostility | Low hormone level | #7-8 | 97.6 | Very low hormone level |
| 7 | Irritability, mistrust and aggression toward sister and girls in office. Self-assertion | Hostility | Low hormone level | #7-8 | 97.4 | Very low hormone level |
| 8 | No analytic session | | | #7-8 | 97.6 | Very low hormone level |
| 9 | Need to be attractive, to gain attention from men. Fear of this desire. Very narcissistic; infantile reaction | Heterosexual tendency. Narcissism (infantile) | Incipient estrogen on low level | #8-1-2 | 97.4 | Incipient estrogen |
| 10 | No analytic session | | | #1-2-3 | 97.4 | Estrogen |
| 11 | No analytic session | | | #7-1 Degeneration | 98.0 | Decline of estrogen |
| 12 | Tearful, longing to be uninhibited and have sexual feelings. Cries because of dependence on analyst | Negative narcissism. Heterosexual tendency | Low hormone level | #7-1 | 97.4 | Decline of estrogen |
| 13 | Tries to be aggressive, spiteful. Overcompensation of her submissiveness. Conflict on ego level only. Negative transference | Hostility | Low hormone level | #7-8-1 | 97.4 | Estrogen on low level |
| 14 | DREAM: (1) Wish to reconcile with analyst. (2) Homosexual tendency. Scopophilic desire. Exhibitionistic tendency projected | Homosexual tendency. Narcissism | Progesterone like but low hormone level | #6-7-8 | 97.6 | Estrogen on low level |
| 15 | Analysis of previous dream. Sibling rivalry. Self-consciousness | Narcissism (negative) | Low hormone level | #6-7-1-(2) | 97.6 | Like premenstrual. Incipient estrogen |

CASE XIII, CYCLE VII—(Continued)

| DATE | SUMMARY OF PSYCHOANALYTIC RECORD | PSYCHODYNAMIC TENDENCY | PREDICTION | VAGINAL SMEAR | TEMPER- ATURE | HORMONAL STATE |
|------------|---|--|---------------------------------|------------------|------------------|--|
| Dec. 16 | Envy toward other girl; complaints of her own inferiority. Defense against homosexual tendency | Homosexual tendency. Negative narcissism | Low hormone level | #7-1-2 | 97.8 | Incipient estrogen |
| 17 | No analytic session | | | #1-2-3 | 97.4 | Increasing estrogen |
| 18 | No analytic session | | | #1-2-3 | 98.0 | Increasing estrogen |
| 19 | DREAM: Envy of a married woman who has a child. Love toward husband. Woman jealous. Denial of heterosexual desire | Heterosexual tendency | Estrogen | #1-2-3 | 98.0 | Estrogen |
| 20 | Reports going to dance last night. Felt well; enjoyed herself | Heterosexual tendency | Estrogen | #2-3-4 | 97.8 | Increasing estrogen |
| 21 | Sense of frustration again because she does not find sexual gratification | Heterosexual tendency | Estrogen | #3-4 | 97.4 | Estrogen |
| 22 | No analytic session | | | #2-3-4 | 97.8 | Slight decline in estrogen |
| 23 | Angry. Rivalry with sister. Cannot protect herself against her envy except by feeling that she is better | Heterosexual tendency. Hostility. Narcissism | Decline in estrogen | #1-2-3 | 97.4 | Further decline in estrogen |
| 24 | Unusual day, did not mind when a man kissed her. Christmas party | Heterosexual tendency | Estrogen | #1-2-3 | 97.4 | Further decline in estrogen |
| 25 | No analytic session | | | #2-3-4 | 98.0 | Increasing estrogen |
| 26 | No analytic session | | | #2-3-4 | 98.2 | Estrogen |
| 27 | Talks only about her experiences during Christmas days | | | #2-3-4 | 97.8 | Estrogen |
| 28 | Patient has heavy breathing, shudders. Clear heterosexual fantasy. Fear of being attacked. Defense against it | Heterosexual tendency | Estrogen | #3-4 | 97.2 | Estrogen |
| 29 | Resistance against smear test | | | | | |
| 30 | Angry, self-assertive | | | No smear | | |
| 31 | Tearful. Wants to have good time. Perhaps because of desire for sexual experience, she stopped taking smears | | | No smear | | |
| Jan. 1 | No analytic session | | | No smear | | |
| 2 | DREAM: Heterosexual transference | | | No smear | | |
| 3 | Enjoyed party, let herself be kissed. Shame, but not altogether genuine | Heterosexual tendency | Estrogen | No smear | | |
| 4 | Heterosexual transference. Denial of intensity of desire. Inhibition, resistance | Heterosexual tendency | Estrogen | No smear | | |
| 5 | Patient extremely resistant. Provokes analyst. Desire for masochistic gratification | Heterosexual tendency | Estrogen. Premenstrual reaction | No smear | | |
| 6 | Very guilty, depressed because she had been provocative | Regression | Lower hormone level | #5-6-7 | 98.2 | Progesterone dominant. Low hormone level |
| 7 | Menstrual flow started. No analytic session | | | #6-7 | 98.0 | Progesterone decline |
| 8 | No analytic session | | | Menstrual | 98.4 | |
| 9 | Very critical and sensitive toward criticism. Has decided to take dancing lessons | | Low hormone level | No smear | | |

CHAPTER 11

COMMENTS AND CONCLUSIONS

The primary object of this study is the discovery of laws which govern the response of women to the fluctuations of their hormones during the sexual cycle. The psychoanalytic concept of the personality as a dynamic and structural organization provides a basis for segregation of the individual variations, and this is a prerequisite for the recognition of those psychodynamic processes which universally motivate sex behavior.

Essentially, our task was to present the method by which the correlations between ovarian function and the psychodynamic processes were disclosed. The presentation of the vaginal-smear, basal body-temperature technique has shown the method for estimation of qualitative and quantitative changes in sex hormone production. Exposition of the psychoanalytic technique as applied to this investigation has shown how psychodynamic manifestations are correlated with hormone changes. The coordination of these two methods, despite the differences in their fields of observation, has provided a new tool for biological research. We have used the estimation of the gonad function as the basis for comparison with the predictions which were deduced from interpretation of the psychoanalytic material. The reasons for this procedure and its advantages are obvious. Although the histological changes of the vagina mucosa can be related only indirectly to ovarian function, the relationship is simple. While psychoanalysis is the best available method of interpreting the motives of human behavior, we could not at the beginning be sure that we should find that our methods would disclose a simple and direct relationship between ovarian cycle and behavior. This relation, however, is so clear (Table 4) that it tends to validate both methods and to justify the deductions. Thus we believe this investigation has shed light upon some problems of psychoanalytic theory, especially those of the sexual drive.

Psychoanalysis looks upon the sexual drive as a manifestation of energy originating in the process of growth, and as an integration of various tendencies which spring from the needs of the growing individual in the course of his development. The pregenital development

of the sexual drive is a complex process of obtaining gratification; the pleasurable sensations of an infant depend upon the gratification of its passive receptive needs. The only relation of the infant to its environment is the manifestation of the various ways and means of achieving this purpose. Although these needs do not cease to exist, their gratification does not remain the only source of pleasurable feeling. As the child becomes more independent, gratification becomes connected with new activities: learning to walk and to talk, learning to control his muscles and his sphincters. The term *anal-sadistic phase* is used to describe that period in which muscle activity, self-assertion, and control of the sphincters dominate the emotional manifestations of the healthy child, while passive receptive tendencies recede in importance. The passive tendencies can always be reactivated as when, for example, there is an increased need for care in illness or when the gratification of passive needs is endangered, namely, by problems in relation to the mother to whom the emotional relationship is not always simple.

In 1931 Freud (1932) emphasized the long and involved pre-oedipal development of girls and attributed to it importance in determining the future sexual development and object-relationship. Since then, several psychoanalytic studies have been devoted to working out, step by step, the crucial points and conflict situations in the early relationship between mother and daughter. R. M. Brunswick (1940) has made a summary of Freud's concept and has noted other observations concerning the preoedipal development of girls. She emphasized that identification with the mother is the psychodynamic process which leads to the next developmental phase in which the girl becomes able to give up the mother as the *exclusive* object of gratification and turns to the father in a passive feminine role. If this complex growth process is disturbed, further sexual development may also be disturbed. It is one of the earliest observations of psychoanalysis that the psychosexual development of every individual reaches its most important juncture at this intensification of the emotional attitude toward the parent of the opposite sex. This is termed the *oedipus complex*; it marks the end of pregenital and the beginning of a new phase of psychosexual development. Although male development does not concern us here, it is appropriate to compare the male and female psychosexual development at this phase. The development of the boy appears to be the simpler. His original object of gratification, the mother, does not change when he enters the oedipal phase, but his relationship to his mother includes the expression of another level of psychosexual growth. Although it is seldom emphasized, the boy reaches this developmental phase by a long process of growth toward

identification with the father which is a prerequisite for competition with him for the sexual role. Psychoanalytic observation offers evidence that normal resolution of the oedipus complex occurs only in those boys who have succeeded in identifying with the father. This process leads to the formation of the superego. Then the oedipus complex is repressed and instead of sexual preoccupation with the mother a normal latency period develops. If identification with the father fails or is interrupted by fear of the father, fixation at the oedipal phase and reinforcement of pregenital tendencies will interfere with further psychosexual development (Benedek, 1934; Jones, 1938).

The oedipal development of the girl appears to be more complex since it necessitates changing the object of gratification. When the girl turns to her father for gratification of libidinous desire she comes into conflict with her mother, the source of gratification of her dependent needs. The competition with the mother may carry with it guilt and fear of punishment, and so it may interrupt the process of identification just as, in the boy, competition with the father may activate fear and interrupt further development. The differences between male and female development appear less important when we emphasize that the oedipus complex in both sexes represents the effect of a psychosexual growth process which is determined by the sexual anlage and aims at fulfilling the sexual function.¹ Before this function can unfold itself fully, the psychological aspect of the growth process prepares the individual for the adult sexual role. The identification with the parent of the same sex is the psychic process by which this preparation takes place.

Our case histories present ample evidence of the process of mother-identification. (*Per exclusionem*, we may say a normal process of identification with a normal mother would have saved the individual from neurosis.) While during preoedipal development the girl had been dependent on her mother, at the oedipal phase we meet for the first time the conflicting tendencies of wanting to be the child—to be loved by the mother—and the desire to be like the mother and to be loved by the father. The emotional manifestations of this tendency at

¹ Recent investigations have shown that children of both sexes possess estrogenic and androgenic substances, the origin of which may be extragonadal. These substances have not been found in urine assays of children under the age of three years. We do not know whether the emotional manifestations of the oedipus complex, the representation of the psychodynamic tendency directed toward the parent of opposite sex, can be chronologically correlated with the appearance of these hormones. It would be extremely important to investigate the psychosexual growth process in relation to the hormonal processes in children. For theoretical as well as for practical purposes, it would be important to learn whether sexually aggressive and active, precocious children are bothered by a more active hormone function than those children who can master their sexual tendencies easily, thus being capable of normal emotional adjustment to the demands of the environment.

this early age, however, are often connected with the fear of being hurt. The fear of the penis is one factor in suppressing the desire directed toward the father. We do not propose to discuss here the origin of this masochistic concept of female sexuality. It seems, however, that the fear of loss of the mother's love, the fear of the mother's punishment, are equally important factors—especially in those cases in which the dependent need was very strong—in forcing the girl to give up further identification with the mother and in increasing the desire to remain a child. Thus the oedipus complex of the girl represents a dynamic conflict between the persisting dependent need and the developing heterosexual tendency.

It is an interesting observation in our case material that this conflict was especially disturbing if the birth of a sibling came at just this period of development. That this event, almost without exception, represents a psychic trauma is a well-known fact. The dependent relationship which still persists toward the mother is threatened when the mother has another child. If sexual desire is developed to such a degree that it is accompanied by guilt feelings, the child may feel that the mother's preoccupation with the newborn infant is a sign of the withdrawal of her love. Our case material, however, has shown that this interpretation alone is not sufficient. We observed that the oedipus complex was reactivated every time the mother became pregnant, even long after the oedipus age or after puberty, causing repeated regression to earlier developmental phases (Cases I, VII, and VIII). Again and again, in investigating the psychodynamic material repeated by an adult woman in correlation with her physiological preparation for pregnancy, our conclusion was reinforced: that the pregnancy of the mother—whenever it occurs—marks a juncture in the psychosexual development of a girl. Pregnancy is a sign of the mother's sexuality; it activates the girl's sexual curiosity and stirs up her latent heterosexual desire toward the father. More important, it seems to us, is its effect upon the daughter's identification with her mother. This may be emotionally manifested as the wish for pregnancy, as the wish to have the father's child, thus permitting identification with the mother in the function of pregnancy. If this wish is not burdened with too much guilt, it may be the best preparation for later sexual function. Often, however, the mother's pregnancy acts as an emotional shock to the girl; the changed appearance of the mother makes her realize that to be like the mother means to be pregnant, a realization which may activate anxiety.² From our ma-

² A similar situation occurs also in the psychosomatic growth of boys. The boy's perception of the large penis of the father may activate the emotional realization that to be a man means to have such a penis. This might activate competition with the father or a fearful flight into passive tendencies.

terial it is evident that the mother's pregnancy and perhaps even the painful experience of observing the mother's labor constitute a deep threat to the girl and interferes with her wish to be like her mother. Pregnancy and parturition are a warning that the same things will happen to her when she experiences what the mother has experienced—sexuality. Thus the fear of pregnancy becomes an important factor in repressing the sexual desire for the father at the oedipal level of development. The same fear later becomes the most important inhibiting factor of the sexual function.

We distinguished two levels and various consequences of the oedipus conflict of the girl. At the one level the heterosexual tendency was inhibited by persistent dependence on the mother; at the other, in which the identification with the mother had made further progress, normal development occurred unless it was inhibited by the fear of pregnancy. If there was a conflict, its outcome was often a need to avoid further identification with the mother. The wish to remain a child (Cases VII, IX, XI), masculine identification (Case VIII), or other forms of neurotic personality structure may result from such conflict constellations. Only those individuals whose developmental identification with the mother had not been burdened by too much fear and guilt seem to follow a normal process of growth until the awakening of the female sexual function after puberty.

The developmental phase of the oedipus conflict implies a degree of psychosexual growth which Freud originally defined as a *genital level* of sexual organization. We might add to this: The two main tendencies of sexual drive in woman—the active, object-directed, heterosexual tendency and the passive, receptive tendency—are manifested for the first time when she reaches the oedipus level of psychosexual integration. These tendencies directed toward the object-world of the child, however, are dynamically antagonistic and thus they may create conflict. The same psychodynamic tendencies determine the sexual function after the woman reaches sexual maturity. When normal sexual maturity is reached, however, hormone regulation coordinates the functions and effects of these psychodynamic tendencies for the purpose of reproduction so that they are no longer in conflict.

The vicissitudes of oedipal development determine the next crucial phase, puberty. Menarche is generally assumed to signify puberty. Puberty, however, is not a sudden change but a gradual process of growth. Physiological and emotional signs and symptoms herald its approach; the onset of the menstrual flow is one of them and takes a central place among all physiological events of puberty. It is as if menarche were a puberty-rite cast upon woman by nature itself; in all

cultures it has been considered an exceptional condition. We still look upon menstruation as the cornerstone of female development where biological, sociological, and psychological factors meet, marking the point at which adaptation to female sexual function may succeed or fail. Our material offered good opportunity to study the difficulties in adaptation to menstruation.

The emotional difficulties characteristic of puberty neither represent nor are caused by emotional reactions to menstruation. We have evidence that individuals whose menarche came late, at the age of 14 to 17 years, had emotional difficulties characteristic of puberty long before the onset of the menstrual flow. Other women whose menarche came early did not show those emotional manifestations immediately. Although they might have reacted to early menstruation with aversion or distaste, their emotional puberty developed later.

Although the ovarian function unfolds its full cycle gradually, the hormone stimulation activates those psychodynamic tendencies which were already manifest in the oedipus complex. This may result in a reactivation of the oedipus complex, the repetition of which indicates that developmental disturbances have already occurred. Normally, the active, object-directed, psychodynamic tendency seeks a new object of gratification corresponding to the level of sexual maturity. Sexual desire becomes a psychological reality. Adaptation to it depends on several factors. It seems easier, however, to describe those factors which interfere with the normal processes than to outline ideal development itself. If previous psychosexual development had been burdened with anxiety or with guilt-feelings, the result may be that anxiety is exacerbated and therefore requires a defense against sexuality. This defense might be expressed as a desire not to be like the mother. One of the most frequent symptoms of neuroses in girls at puberty is hostility toward their mothers. It is she whom the girl blames for all the difficulties of her adjustment to the sexual role. In each of our case histories we have shown how the mother's personality, her capacity for love, her acceptance of sexuality or defense against it, influenced the daughter's identification with her and thus the psychosexual development. If the identification is successful, the girl becomes capable of accepting her own heterosexual tendencies without fear or defense; she will also be able to accept menstruation without undue protest or regression. If the prepubertal development has been such that identification with the mother could not succeed or that it represented a threat, there will be a deeply felt resistance to menstruation. For menstruation is experienced as evidence of the difference between the sexes. It signals the existence of an organ of which the girl was previously unaware and indicates her future

function: pregnancy and childbirth. This feeling—*independent of any explanation which may have been given to the girl about the meaning and function of menstruation*—is deeply rooted. It may be accepted readily or it may reactivate anxiety previously experienced in reaction to heterosexuality or in relation to the mother and to the mother's pregnancies. The emotional reaction to menstruation may then be a feeling that the body is damaged or endangered.

In those cases where personality structure had already shown signs and symptoms of masculine identification as a defense against feminine tendencies, we found the concept that menstruation is identical with castration. This motivated very defensive emotional reactions. Another type of defense seems to be deeper although less conspicuous. Menstruation seems to be accepted, but the reaction to the normally increasing sexual stimulation is regression. The result of this is the reinforcement of pregenital tendencies which may then influence not only the emotional manifestations of sexuality but also the hormonal function of the ovary. Thus the integration of the sexual drive determines the further evolution of sexual maturity.

We investigated the motives which had influenced the growth processes long before the ovarian function began, and we found that the pattern of the gonadal cycle as it unfolds in the adult woman is determined by a complex interplay of hormonal and emotional growth processes.³ Its stability is affected by a variety of events, such as marriage, pregnancy, the normal aging process, and pathological processes.

As a result of the present investigation we can say that the sexual cycle is a psychosomatic unit. The evidence for this is brought forth by the correlations between the hormone processes and the manifestations of the sexual drive. These correlations applied to the study of the sexual cycle show that, paralleling the cyclical production of the gonad hormones, the sexual drive repeats a developmental integration in each cycle.

³ Throughout this investigation we have discussed the gonadal cycle as if it were a function of the ovaries, independent of and isolated from other processes. The pattern of the ovarian cycles is, however, dependent upon the gonadotropic function of the pituitary gland. Thus developmental factors—although in an indirect way—might be related to the pituitary function. Although ours is very limited material, it has indicated a gradation in the developmental factors which might warrant the following classification, for which, however, evidence cannot be brought by our present technique of investigation. (1) If the psychosexual development was such that the gonadotropic function unfolded normally, the coordination of the ovarian function is that of the normal adult sexual cycle. (2) If the psychosexual development was disturbed in early childhood, suppression of the estrogenous function might be the result. The gonadal cycle might then reflect various irregular patterns of hormone production. (3) If the psychosexual development was such that the gonadotropic function was suppressed, the sexual cycle would not develop, that is, the hormone production would remain similar to that of children. Further investigation will complete the series. It may fill in the links necessary to disclose the intricacies of the interrelation between psychosexual development and endocrine factors which precede and control the ovarian function.

1. If the hormone level is low, the emotional manifestations are motivated by those psychodynamic tendencies which had provided libidinous gratification in early childhood. That is, the pregenital tendencies—dependence and anal tendencies—are repeated in the adult individual, even in persons of genital psychosexual maturity, whenever the hormone level is close to the nongonadal state of early childhood.

2. From puberty on, estrogen indicates the beginning of the hormone cycle, since it is produced in gradually increasing quantity by the ripening follicle. Paralleling estrogen production, an active sexual energy dominates the behavior and brings forth the libidinous demands in order to seek contact with the sexual object. The quantitative fluctuations of the estrogen production can usually be inferred from the emotional manifestations of this psychodynamic tendency, the variations in the intensity of the libidinous desire. We distinguished libidinous tendencies according to the developmental integration of the drive. In one and the same individual we found that the infantile manifestations of the active sexual tendency are repeated in correlation with diminishing or low estrogen production, and the genital level of its manifestations corresponds with increasing or high estrogen production.

3. Progesterone—according to our present knowledge—is the hormone which is not produced until after puberty. Its appearance is bound to mature ovarian function. Its periodic return seems necessary for the cyclical course of the hormone and emotional processes. Progesterone is correlated with the passive direction of psychosexual energy. We defined various psychodynamic tendencies of passive direction, and we distinguished their genital from their pregenital manifestations. We found that the return of these tendencies depends not only on the quantity of progesterone but also on the balance between progesterone and estrogen and upon the duration of progesterone production. Furthermore, it seems that the genital and pregenital levels of these tendencies are even more closely related to the personality structure, to the developmental integration of the sexual drive, than are those psychodynamic tendencies which are correlated with estrogen. The incipient production of progesterone coincides normally with the highest level of estrogen; there is an active sexual tendency expressing genital demands with which the passive receptive tendency fuses, thus completing the integration of the sexual drive. We have repeatedly discussed the emotional manifestations of this hormone and the psychodynamic constellation which represents estrus in woman. The feeling of love and the readiness to receive the male

are normally conscious, while the tendency for impregnation usually remains unconscious and is expressed in dreams. The psychodynamic manifestations of increasing progesterone production represent a genital level of sexual integration in a biological sense, but their emotional expressions are often quite different from those that have usually been recognized as genital integration of the psychodynamic tendency. The increasing progesterone masks the psychodynamic manifestations of estrogen. Thus, instead of the loving desire which is directed toward the male, a self-centered emotional state develops; narcissism and the retentive tendency become the dominant psychodynamic factors when preparation for motherhood is the goal of the sexual drive. It is interesting that, correlated with this phase of progesterone function, the psychoanalytic material repeats those conflicts which had already represented the tendency for mother-identification at the oedipal level of development and during puberty. If the psychoanalytic material showed a solution of this conflict, we predicted, on the basis of reconciliation with the mother, a higher level of hormone production than when the hostility toward her was dominant, since with diminishing hormone production the libidinous feelings abate.

The eliminative tendency, which is the characteristic manifestation of progesterone reduction, whether expressed as a genital or as a pregenital tendency, normally lacks libidinous feeling-tone and is often accompanied by hostility or anxiety or by both. The onset of the menstrual flow occurs at low hormone level as if to indicate a caesura between two gonadal cycles, repeating the fact that menstruation itself precedes complete sexual maturity. The gonad function in mature woman is a complex hormone process which results in the subsequent production of two or more hormones according to a pattern. The interplay of psychic and somatic growth processes determines not only the hormone pattern but also the psychosexual character of the personality. The study of the hormone cycle afforded evidence that the qualitative changes and quantitative fluctuation of the ovarian hormones subject the woman to emotional processes motivated by integration and regression of the sexual drive. Thus the sexual cycle, superimposed upon the basic integration of the personality, repeats the evolution of the gonad function, just as it reflects the individual's psychosexual development in condensed form.

Since we could predict the qualitative changes and the quantitative fluctuations of the hormone cycles through interpretation of the psychodynamic manifestations, we tested the assumption that hormones regulate the amount and distribution of sexual energy with which the

psychic apparatus must deal (Freud, 1940). We believe that the specificity of the correlations offers evidence that this is true of the field of sexual energy.

It would be an error, however, to conclude that hormone change or even the change of sexual energy is responsible for all psychic tension; that basic capacity for love, for motherliness, for activity and constructiveness, or the lack of these qualities depends wholly upon hormone regulation. In addition to the fact that the production and effect of sex hormones are influenced by all metabolic processes, there is evidence to prove that these basic attributes of the individual are present before sexual function matures and that they do not cease to exist after the decline of hormone regulation. Thus the processes which we describe in their emotional and physiological aspects are superficial—like faint ripples on a large body of water as compared with the constitutional basis of personality. It would be mere speculation to attempt an interpretation of constitutional factors and energies beyond those which we can infer from the analysis of psychosexual behavior. Freud (1930) continually emphasized the limits of our understanding set by the unknown factors of constitution; his concept of the sexual drive is actually an explanation of psychosexual development and function.

The developmental concept of the sexual drive—a result of Freud's observation of neurotic conditions and perversions—aroused impassioned controversy. The opponents of psychoanalysis doubted whether pregenital forms of gratification have relation to sexuality, which they assume begins at puberty. This argument fails since it is now generally accepted that puberty develops slowly. Those arguments which are brought against the concept that the libidinous needs of infancy and early childhood constitute an integral part of the sexual function of the adult seem more important. Our study of the sexual cycle demonstrates that manifestations of the sexual drive do not show the same level of integration in the same individual during a single sexual cycle. A change in the quantitative production of the ovarian hormones is all that is necessary to shift a pregenital psychodynamic expression to one of the genital level of maturity, or conversely. This is evidence that infantile, pregenital tendencies do constitute a part of adult sexuality; that these tendencies in woman are subsequently integrated into the service of reproduction by gonadal activity.

Still another argument concerning the development of sexuality is of more than terminological significance (Alexander, 1933). It is inappropriate to term the manifestations of pregenital tendencies in children "sexual," since their goal is actually nongenital. We found it important to distinguish between the terms used to express the

direction and the aim of the sexual drive—psychodynamic tendencies—and those terms used to describe the emotional manifestations accompanying these tendencies. We have therefore used *libido* in its descriptive sense; we have spoken of libidinous feelings and desires or the lack of them. We attempted to estimate phenomenological differences between these feelings and desires and found that, within the range of the individual's capacity for producing and expressing libidinous emotions, there is a gradation, an increase or decrease of libidinous emotions which corresponds, respectively, to increasing and decreasing hormone production; that the highest hormone production corresponds to the highest integration of the psychodynamic tendencies, and that these are normally accompanied by the most intense libidinous feelings of which an individual is capable; that pregenital psychodynamic tendencies in an adult correspond to low hormone level and are accompanied by nonlibidinous feelings. In his early investigations, Freud (1930) recognized that libido is a force of variable quantity, and he assumed that its manifestations were a measure of processes and transformations in the sphere of sexual excitement. Our investigation corroborates this hypothesis, but it also shows the desirability of distinguishing between mature genital sexuality and the pregenital tendencies. We agree that "sexuality" be reserved for functions after puberty, and that for the emotional conditions which are pregonadal, a term other than sexuality would be more precise. A terminology defining the pregenital tendencies by their psychodynamic qualities, namely, by their direction and their aims, reflects the developmental conditions and accounts for the present stage of our knowledge.

In female sexuality, libido seeks gratification of a passive goal (Freud, 1927). This was Freud's description of the genital-receptive tendency in the female sexual function. This quality of female sexuality, however, was explained by means of quite intricate assumptions in accordance with certain concepts of psychodynamics, namely, that the passive aims and direction of a psychodynamic tendency are a secondary reaction to an active tendency. Since Horney's (1924) first attempt to prove this concept erroneous, she and others have suggested, on the basis of psychoanalytic investigation, that there must be a primarily feminineanlage. Our investigation brings us into accord with those who were designated by Freud as "feminists among the analysts" (1932). The sexual maturity of woman is manifested by the sexual cycle, with the successive production of two hormones, both of them related to specific directions of the sexual drive. Just as the active tendency of the sexual drive is related to estrogen, there is also a physiological substratum for the passive-receptive tendency,

namely, progesterone. Although progesterone develops only after puberty and its development is not independent of previous estrogenous function, we nevertheless conclude that female sexuality has primary properties which unfold fully in correlation with the hormone whose specific function is to prepare for and maintain pregnancy. In addition to the reconstruction of the developmental factors of the adult individual, it may be that direct observation of children will prove the existence of primary tendencies toward motherliness which antecede progesterone production. The cyclical repetition of the same tendencies in correlation with progesterone proves that the passive receptive tendency and the wish for impregnation and for pregnancy do not develop as a reaction to or in conflict with active libido tendencies. On the contrary they represent a genuine quality of female sexuality which is expressed by specific psychodynamic tendencies when progesterone production has prepared the way for reproduction. Narcissism, passive receptivity, and the retentive tendency seem regressive in comparison with the manifestation of the active sexual tendency. Yet it is the specific characteristic of female sexuality that when the active drive, with its manifest integrative function, appears lessened, preparation for the even greater integration required for pregnancy continues.

We might say that the difference which distinguishes the sexual drive of the female from that of the male is the fact that in the male the two main tendencies of the sexual drive—sexual gratification and reproduction—coincide, whereas they are separated by a time factor in the female. The biological goal of sexual function is reproduction; sexual drive is a means to this end; it creates a need which tends toward gratification and thus reproduction can be achieved. In the male, the sexual desire tending toward genital gratification reaches the level of consciousness, while the reproductive tendency does not need to show emotional manifestations at all. Indeed we are justified in assuming that paternal tendencies do not exist as a biological phenomenon, only as a sociological phenomenon. For the male, one act serves gratification of the sexual need and reproductive function. In the female, the sexual desire, seeking gratification, reaches consciousness; after sexual gratification or even regardless of gratification, there develops a period of preparation for the reproductive function. This is manifested by psychodynamic tendencies which, although they seldom reach the level of consciousness, are at work during this "calm period."

Therefore the sexual rhythm of women can be detected only by psychoanalytic interpretation of the various preconscious and unconscious representations of the sexual drive.

The correlations between gonad function and psychodynamic processes indicate that both the vaginal-smear, basal body-temperature technique and the interpretation of the psychoanalytic record intimately measure related functions. The promptness of psychic reaction to hormonal changes of the ovary leads us to believe that the psychic apparatus offers a highly sensitive bio-assay for estimation of hormonal changes. We are aware that our method is still crude and even incomplete, that we have not been able to disentangle all the factors involved in the mechanism of the integration of the psychodynamic and hormonal processes during the development or during the course of the cycle. The reasons for this are manifold. We wish to point out that the ovarian function is but one link in the endocrine complex, and that emotional reactions are also influenced by an interplay of factors, drives, and experiences beyond the sphere of sexuality. Further evaluation of the motivations of these reactions would have confused rather than clarified the present issue.

It would require a too-complicated and long study to connect the problems discussed in this presentation to other related investigations in physiology and psychology. There is a fast-growing literature upon problems of endocrines and personality, endocrines and sex behavior. There are also new approaches in these and in bordering fields, indicating possibilities of further psychosomatic research and paths by which greater precision of the correlations may be achieved. We mention only two such recent investigations which may be pertinent to the problems discussed: one is the pharmacodynamic effects of estrogenic substances which promises to clarify the psychological effect of estrogen (the effect of estrogen on ego); the other is the influence of diet upon the pituitary gland. This or similar studies might supply information concerning the correlation between developmental fixations and the hormonal pattern of the cycle.

There are other problems—more in line with psychoanalytic research and theory—into which new insights will be gained when our approach is applied in further investigation. Some of these have already been opened to discussion on the basis of the material presented here. We believe that the almost forgotten concept of *actual neurosis* which Freud proposed as a direct reaction to ungratified sexual stimulation could now be restated. Although we mentioned the relation of psychosomatic symptoms to the variations of ovarian hormones, we did not evaluate it. As if surprised that the correlations had worked at all, we postponed their application to other problems until our method itself can be tested by more evidence.

Psychoanalysis is not only a method of investigation but also a therapy. Even in investigative work, therapy is uppermost in the psy-

namely, progesterone. Although progesterone develops only after puberty and its development is not independent of previous estrogenous function, we nevertheless conclude that female sexuality has primary properties which unfold fully in correlation with the hormone whose specific function is to prepare for and maintain pregnancy. In addition to the reconstruction of the developmental factors of the adult individual, it may be that direct observation of children will prove the existence of primary tendencies toward motherliness which antecede progesterone production. The cyclical repetition of the same tendencies in correlation with progesterone proves that the passive receptive tendency and the wish for impregnation and for pregnancy do not develop as a reaction to or in conflict with active libido tendencies. On the contrary they represent a genuine quality of female sexuality which is expressed by specific psychodynamic tendencies when progesterone production has prepared the way for reproduction. Narcissism, passive receptivity, and the retentive tendency seem regressive in comparison with the manifestation of the active sexual tendency. Yet it is the specific characteristic of female sexuality that when the active drive, with its manifest integrative function, appears lessened, preparation for the even greater integration required for pregnancy continues.

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Psychoanalysis is not only a method of investigation but also a therapy. Even in investigative work, therapy is uppermost in the psy-

choanalyst's mind. We cannot avoid the question : what are the effects of this investigation on therapeutic procedure? In so far as it changes some of our concepts of feminine sexuality, it will also change our approach to clinical problems. Another problem is whether a knowledge of the sexual cycle can be utilized in the psychoanalytic procedure to activate or hasten those processes which make unconscious conflicts conscious.

The question of whether this investigation can be used for the purpose of combining hormone therapy with psychoanalysis has already been raised. We studied only how the individual reacts to her own hormones. It is not improbable that microscopic study of psychodynamic reactions to hormones might clarify indications for hormone therapy. But it is evident that the psychosomatic reactions to hormones are so complex that we should caution against medication with hormones rather than encourage it. There must be precise indication, which necessarily includes an understanding of the psychodynamic reactions of the patient to her own hormones. This process of understanding also serves to free the emotional path for the effects of hormone medication.

These and many other related problems await an answer from future research. This work should be viewed and examined as a step in the direction of fathoming the riddle of psychosomatic function.

CHAPTER 12

THE PSYCHOSOMATIC IMPLICATIONS OF THE PRIMARY UNIT: MOTHER-CHILD

In the recent literature, several observations have been published demonstrating that the child, by some not clearly defined psychic process, incorporates the emotional attitudes of the mother, embodies her anxiety, and develops symptoms which the mother used to have or might have had.¹ The motivations which play a role in the presenting symptom of the child also exist in the mother and can be elicited by analysis. The dynamics of such preconscious or unconscious communication between mother and child may be clarified by a better understanding of the psychobiological factors which motivate motherhood and motherliness.

This discussion deals with the *psychodynamics of the symbiosis* which exists during pregnancy, is interrupted at birth, but remains a functioning force, directing and motivating the mental and somatic interaction between mother and child.

As long as gratification of the emotional need for motherhood was fulfilled without interference by human controls, one rarely had opportunity to study the primary psychobiological factors in childbearing. The behavior manifestations which are usually accessible to psychoanalysis reveal that the woman's identification with her mother motivates her attitude toward motherhood and determines her behavior toward her children. While such psychoanalytic observations elucidate how emotionally determined attitudes may be carried over from generation to generation, they do not answer the question whether there is a genuine, primary psychological need (instinct, in Freud's sense) which directs the woman's desire for conception and motherhood and motivates her motherliness.

The study of the sexual cycle in women (which appears as Chapters 1 to 11 of this volume)—a detailed analysis of the emotional

¹ Beata Rank (1948) and her collaborators observed such psychic transmission of conflict constellations to children who became feeding problems. Betty Joseph (1948) has shown the same in infants of five to seven months who developed biting symptoms and anxiety. Margaret Fries (1944) investigated the interaction between mother and infant during the lying-in period, and René Spitz (1947) demonstrated the infant's reactions to the mother's depression.

processes as they unfold in correlation with the hormonal cycle of the ovaries—has thrown new light upon the female psychosexual organization.

A complete discussion of the sexual cycle is beyond the scope of this presentation. In order to elucidate the psychology of motherhood, however, I shall discuss one phase of the cycle, the postovulative, progestin phase. After ovulation, the wall of the ruptured follicle, from which the ovum has escaped, undergoes a process of luteinization and produces a hormone called lutein or progestin. The function of this hormone is to prepare the mucous membrane of the uterus to receive the impregnated ovum and to help maintain pregnancy if conception occurs. If conception does not occur, the progestin production declines after four to six days, the uterine mucosa breaks down, and the uterus is prepared for menstruation. The emotional state which develops in correlation with the progestin phase can be compared with the "quiet period" in lower mammals. The psychic apparatus seems to register the somatic preparation for the pregnancy by a change of emotional attitude: the woman's interest shifts from extroverted activities to her body and its welfare. Expressed in psychodynamic terms, the libido is withdrawn from external, heterosexual objects and becomes concentrated upon the self. This is the phase of the cycle during which the woman's desire for pregnancy, or her defense against it, dominates the psychoanalytic material. At the same time, or some days later in the cycle, the analytic material may show preoccupation with care of the child.² However, as if mother and child were identical or interchangeable, the tendencies toward child care may be expressed at one time *actively*, as a wish to nurse, to feed, to take care of the baby, and at other times the same woman may express the same tendencies *passively*, as a desire to be fed, to be taken care of.

Helene Deutsch (1944, 1945) found that a *deep-rooted passivity* and a *specific tendency toward introversion* are characteristic qualities of the female psyche. Our study of the sexual cycle reveals that these propensities of female psychology are repeated in cyclic intervals, in correspondence with the specifically female gonad hormone, *progestin*, during the postovulative phase of the ovarian cycle. On the basis of such observations we assume that the emotional manifestations of the specific passive-receptive and narcissistic-retentive tendencies represent the psychodynamic correlates of the biological need for motherhood.

² We could not determine whether this occurs in correlation with progestin alone or in correlation with *prolactin* production in these women who are neither pregnant nor lactating.

The *psychology of pregnancy* is easily understood in the light of the psychodynamic processes which accompany the progestin phase of the cycle. Just as the monthly repetition of the physiological processes represents a somatic preparation for pregnancy, so the corresponding monthly repetition of the emotional attitudes represents a preparation for that introversion of psychic energies which motivates the emotional attitudes of the pregnant woman.

The interaction between mother and child—the *symbiosis*—begins after conception. The enhanced hormonal and general metabolic processes which are necessary to maintain normal pregnancy produce an increase of vital energies. The pregnant woman, in her placid vegetative calmness, enjoys her pregnant body which is like a reservoir replenished with libidinous feelings. While such feelings enhance the mother's well-being, they also become the source of her motherliness; they increase her pleasure in bearing the child and her patience in regard to some of the discomforts of her pregnancy. Primary narcissism—the result of surplus energy (Alexander, 1940) produced by active metabolic balance—is the reservoir which supplies with libido the various emotional tasks of living. As the hormonal processes of pregnancy replenish the primary narcissism of the woman, this becomes the source of her motherliness. The general behavior and the emotional state during pregnancy may appear "regressive" if we compare them with the usual level of ego integration of the same woman; yet the condition which appears regressive on the ego level represents a growth of the integrative span of the personality on the biological level. While the mother feels her growing capacity to love and to take care of the child, she actually experiences a general improvement in her emotional balance. We have observed that many neurotic women who suffered severe anxiety states before have become free from anxiety during pregnancy. Others become free from depression and from desperate mood changes. Many women, despite the discomforts of nausea or morning sickness, feel emotionally stable and have the "best time" during pregnancy. This does not mean that we are forgetting that some women become severely panic-stricken and/or depressed during pregnancy. (Usually this happens in the latter part of pregnancy or after delivery.) If the woman's developmental disturbance is such that her ego is unable to master the productive task of childbearing, a dissociation of the functions (physiological and mental) may occur during the pregnancy. In this paper, however, we are discussing the emotional course of the normal pregnancy which enriches the somatic and psychic energies of the woman to a degree that she becomes able to master emotional conflicts which were dis-

turbing to her at other times. The force which maintains pregnancy is responsible for the characteristic attitude of withdrawal which sometimes becomes intensified to such a degree that nothing else, no other reality, counts for the pregnant woman, and she lives as in a daze.³

Another aspect of the psychology of pregnancy is expressed by an increase in the *receptive tendencies*. This is a manifestation of the biological process of growth which it serves. The voraciousness and the bizarre appetite of the pregnant woman are well known. "She eats for two" expresses permission, especially when gratification of such needs is not limited by medical control. The pregnant woman thrives on the sympathy and solicitude of her environment. If, however, her passive receptive needs are unfulfilled, if her husband or her family are not adequately attentive, the sense of frustration may set in action a regressive process which may increase her receptive needs to an exaggerated degree. The resulting anger may destroy the primary narcissistic state of pregnancy and thus it may interfere with the development of motherliness.

The difference between primary and secondary narcissism in the development of motherliness can easily be seen when we contrast the vital libidinal energy (produced by the metabolic processes maintaining the pregnancy) and the secondary ego gratifications which the pregnant woman may expect in connection with her pregnancy and her child. The need for ego gratification may change the fantasies of the mother from the unqualified desire for a child to definite wishes and ambitions which she hopes and intends to fulfill through the child. Thus the child becomes a means for gratification of individually determined goals even before it is born. A mother may worry during the pregnancy lest her child will not be all that is desired, i.e., a son for one reason or a daughter for another. Many other conflicts, arising from the secondary narcissistic goals of the personality, may disturb the development of genuine motherliness.⁴

The important role that hormonal stimulation plays in the development and performance of motherliness has been well studied in animals. In the human, one is inclined to overlook the role of hormonal stimulation, since motherliness, an idealized attitude of highest value,

³ This is the reason why some women, even if they have to hide the pregnancy—for example, unmarried mothers—do not realize the actual difficulties they have to face but forget about them until the delivery creates a different emotional situation.

⁴ There are other factors in the psychology of pregnancy which may interfere with the development of motherliness, such as the fear of death at childbirth, exaggerated fear of labor pains, etc. These are, however, symptoms motivated by developmental conflicts of the woman and are therefore secondary. Here the discussion is limited to those aspects of the psychology of motherhood which are related directly to the hormonal processes. However, the hormonal processes may be influenced by environmental factors which motivate the psychosexual development *in toto*, such as the girl's identification with the mother. See Chapter 1 in this volume.

is considered as the fulfillment of ethical aspects of the personality rather than of "animalistic" biological functions. Yet motherliness is a function of a specific—biological and psychic—maturation; its completion, as many observations prove, is only rarely reached at and about the birth of the first child.

While *the trauma of birth*—the interruption of the fetal symbiosis—in recent years has been studied often from the point of view of the infant, its significance for the mother has been relatively neglected. I do not refer here to the massive obstetrical traumata and the resulting pathology. I rather want to point out that when the newborn leaves the womb and has to become active in securing the basic needs for living, the mother's organism has to become reorganized also. In some sense this may be considered as a trauma for the mother. The hormonal and metabolic changes which induce parturition, the labor pains, and the excitement of delivery, even without an intensive use of narcotics, interrupt the continuity of the mother-child unity. After delivery, when the organism as a whole is preparing for the next function of motherhood—*lactation*—mothers, especially primiparas, may experience an "emotional lag." For the nine months of the pregnancy they were preparing to love the baby. After delivery they may be surprised by a *lack of feeling* for the child.⁵ Usually love for the newborn wells up in the mother as she first hears the cry of her baby. The sensation of love reassures the mother about the continuity of her oneness with the child, and she may relax and wait serenely to receive her child on her breast. It is different if the mother, instead of love, feels a sense of loss and emptiness; if she has the feeling of distance between herself and the infant; if she views the baby as an outsider, an object; and if she asks herself with estrangement, "Is this what I had in me?" Mothers having such a disquieting experience usually muster all their self-control to suppress this feeling and try to summon their previous fantasies to establish an emotional relationship with the infant. Such mothers, disappointed in themselves by the lack of love, feel guilty, become anxious; and with this the insecurity toward the child begins.⁶

The further development of the mother-child relationship depends on the total personality of the mother; she may develop a depression and withdraw from the child; she may turn against the child who exposed her failure in loving and reject it completely; or she may over-compensate the fear of not being able to love and may become over-

⁵ This occurs more often if delivery was performed under complete anesthesia so that the mother has no memory of the experience.

⁶ Whether the postpartum metabolic processes have such a generally depressing effect on the mother that she is unable to feel love and consequently becomes afraid of the tasks of motherhood, or whether the lack of motherly emotions is the result of the immaturity of those psychic and somatic processes which result in motherliness, deserves further study and probably needs to be established in each case.

indulgent and protective. This early postpartum *emotional lag* is a critical period during which the husband's relationship to his wife, his readiness for gratifying her dependent needs, is of great importance. The postpartum woman, for many reasons, including physiological motivations, has a regressive tendency and therefore has a great desire to be mothered. Through the love which she passively receives she may be able to overcome the depression and give love to her child.

Whether the mother, through the feeling of love, is able to maintain the sense of unity with her child, or whether she has to miss this most significant gratification, the organism of the mother is not ready to give up the symbiosis after parturition. The need for its continuation exists in the mother, whose hormonal household is preparing to continue the symbiosis by *lactation*.

The psychosomatic correlations during the normal lactation have not been studied closely because lactation is a contented period in the woman's life. The hormonal function—related to *prolactin* production—which stimulates milk secretion, usually suppresses the gonad function and induces an emotional attitude which is similar to that of the progestin phase of the cycle. As is now known, during the monthly preparation for pregnancy, the intention toward motherliness is expressed by active and passive receptive tendencies. During lactation, both the active and passive receptive tendencies gain in intensity; they become the axis around which the activities of motherliness center. The woman's desire to nurse the baby, to be close to it bodily, represents the continuation of the original symbiosis not only for the infant but for the mother as well. While the infant incorporates the breast, the mother feels united with the baby. The identification with the baby permits the mother to "regress," to repeat and satisfy her own passive, dependent, receptive needs. The emotional experiences of lactation, while they permit a process of identification between mother and child, afford a slow step-by-step integration of normal motherliness.

What have our present methods of child care done with the woman's ability and readiness to nurse the baby? It would lead us away from the primarily psychosomatic frame of this presentation if I went into a discussion of the sociological and anthropological factors which, in our culture, interfere with the continuation of the symbiosis between mother and infant during lactation. The result of the suppression of the natural process of motherliness is, however, very serious. Possibly the baby's "formula" can improve on nature so far as chemistry is concerned; possibly it can regulate the metabolic needs of the infant better than breast feeding does; but it cannot develop

motherliness through the bottle, even if the mother is permitted to hold her baby in her arms while she feeds him, as present-day nursing care encourages.

One example of incipient disturbance of motherliness I observed recently. This young woman was very eager to have a second baby and was very happy when she became pregnant. Her moodiness, which often led to suicidal ideas, disappeared and she felt serene during the pregnancy. While the delivery of the first baby in a military hospital during the war had been a frightening experience, this fear was now overcome, since everything could be arranged according to her wishes. She had a normal delivery with anesthesia only at the end. To the great surprise of the nurses, she wanted her baby to room-in with her. She felt happy and contented, watching her infant and nursing him, concentrating on him completely. Then she developed a slight infection and the baby was taken away from her. When she went home, a nurse took over the care of the baby. As the nurse watched her feeding the baby, she felt her milk being dissipated. The nurse was eager to give the baby the bottle. The mother became uncomfortable and depressed. Although she felt that she was losing what she wanted so much, her friends began to tell her that it was time for her to go out, to enjoy her freedom while she had the nurse. She became moody. "I spend time fantasizing about being sick and in the hospital again," she confessed. She complained that she was superfluous to the baby, yet she did not dare send the nurse away and take full responsibility for she was not certain that at home she could enjoy the same concentration upon the infant as she had felt in the hospital. "That would be unfair to the older child," she protested, and it would also seem silly to some of her friends. Thus, five weeks after delivery—in old times she would still be "in confinement"—she was in the psychiatrist's office complaining about two things: (*a*) that she loved the baby in the hospital, but now did not know how to love him, and (*b*) that the baby, who was so quiet and gained weight so well, had become fussy, was crying a great deal, and had even vomited once or twice and this frightened her.

No single example can completely illustrate the point which I want to make, namely, that not only the infant has the need for the mother's readiness to nurse, to take care of him; not the baby alone thrives on the closeness of the mother, by her warmth and tenderness; but the mother also has an instinctual need to fulfill the physiological and emotional preparedness for her motherliness. If this process of the mother's development is suppressed, the enforced changes in the hormonal function may disturb that psychosomatic balance which is the source of motherliness. The vulnerability of the integration of mother-

liness can be explained by a summary of the psychosomatic processes of the puerperium⁷ and lactation.

1. When one compares the psychosexual integration of the personality during the puerperium with that of the "highest" integration of the personality, the lactating or puerperal mother appears *regressed* to an oral level.

2. While this psychosexual state accounts for the (unconscious) communication—identification between mother and infant—it also accounts for the depressive reactions of the mother.⁸ Thus the mother becomes oversensitive in regard to her capacity for fulfilling the function of motherhood.

Every indication of her failure increases the mother's sense of inferiority and creates anxious tension and depression. Just as the suppression of lactation interferes with the development of motherliness, so failure of motherliness, originating in other sources of the personality, may interfere with lactation. In olden times one used to say that the emotional disturbance of the mother "goes on the milk," and it was assumed that the emotional disturbance influenced not only the quantity but also the quality of the milk so that the baby received milk which was "difficult to digest" and caused colic and other suffering. For many years one shrugged scientific shoulders over such "superstition." Today, we accept it as fact, although we admit that we do not know the pathways by which the emotional tensions of the mother are transmitted to the infant.

In an earlier paper I examined the interaction between mother and infant in regard to the development of the adaptive capacity of the ego (1938). It is pertinent to summarize here the main conclusions of that study.

According to our hypothesis, the symbiosis between mother and child continues on a different scale during the neonatal period. The sleeping infant is in a condition closely resembling that of intrauterine life. The arising physiological needs disturb the sleep, and then the course of gratification is as follows: crying—gratification—sleep. This process evolves, so far as the newborn is concerned, *within the self*, without realization of the external environment. The mother's genuine motherliness, her desire and ability to supply the infant with the sensations of "protectedness," reduce the frequency of disturbing stimuli and diminish the intensity and length of the crying fits. Through the rhythmic repetition of the gratification of his physi-

⁷ Puerperium is the period from termination of labor to the completion of the involution of the uterus—usually six weeks.

⁸ That the intensification of the oral receptive tendencies represents the psychodynamic conditions for the development of depression is a well-established concept of psychoanalysis.

ological needs the infant develops the perception that the source of the need (hunger, pain, discomfort) is *within*, and the source of gratification is *outside* the self.

By the same routinely returning process of gratifications, the infant acquires a *sense of confidence* that the mother will gratify his needs. It is difficult to describe the phenomenology of this early emotional state, although mothers will recognize its manifestations—in the baby's way of turning his head, following with his eyes, ceasing to cry for a short while when the mother is near, etc. This indicates that confidence plays an important role in the economy of the psychic apparatus during infancy. It preserves the mother-child unity; it helps to decrease the intensity of the outer stimuli and thus averts anxiety. Lack of confidence stimulates tension which may grow into discomfort and anxiety. This emotional shelter—confidence—and the positive, dependent relationship to the mother which is its consequence, facilitates learning in the normal infant. The ego, strengthened by the libidinal relationship to the mother on the one hand and by the absence of anxiety on the other, develops an adequate capacity to perceive the objects of the outer world; such an ego is able to accept new and unexpected situations (always in a degree which corresponds to the developmental level of the child) and masters them by trust in the mother.⁹

Quite different from this ego structure is the ego of those infants whose development was not guided by the confident relationship to the mother. *Hospitalism* (Spitz, 1945) is a severe state of inhibition which develops in infants raised in institutions where routine substitutes for love. Without the loving stimulation of one individual, children with such dependent needs do not turn to any person with confidence. Such children do not watch the person, but rather the bottle or some other phase of the routine. It was observed that such children refused the bottle when it was offered from the side of the bed other than they were used to. Such children adapt to the routine gratification of their needs with conditioned reflexes.

Conditioned reflexes also represent a significant part of primary learning in normal children. Yet there is an important difference between the learning of the healthy infant and that of the infant developing various degrees of hospitalism. Conditioning is an adaptive

⁹ The concept of *confidence* can be compared with the concept of *hope* (1945). French shows how "hope" facilitates the mental processes necessary for achieving a goal. We believe that *hope* develops as a mental habit on the basis of *confidence*. Through confidence in the forthcoming passive gratifications and in the forthcoming help and support in attempts at active mastery, the ego develops to a stage in which it is able to project the expectations for gratification in the future. Hope, like confidence, diminishes the sense of frustration, and already in early childhood enables the individual to wait for gratification without a sudden increase in the psychic tension.

mechanism which serves as a protection against anxiety. Anxiety has several sources. One of them is the body itself, which generates pain by the sensation of unsatisfied physiologic needs; the other source of anxiety is the danger in which the weak ego finds itself when alone and isolated. Infants raised by loveless routine are exposed to anxiety-producing situations more often than those whose needs are met with loving care. The ego, beset by anxiety too often and for too long a time, remains fixated to the level of primitive conditioning. Such reflex adaptation saves the child from further increase of tension, and the child remains calm as long as every step of the routine is followed without a change. Every new situation, even a slight change in the routine, will, however, be experienced as a danger; the child responds with anxiety, i.e., with crying. If the environmental situation cannot be improved, the inhibition increases; the child, in order to avoid anxiety, finally refuses to respond and does not accept any new situation. If only the bare physiologic needs of a child are supplied, he may grow up to become a deeply inhibited person. For such an individual, every new situation will reactivate a part of that anxiety which he experienced as an infant. The individual who did not learn to love during the first year of life will be threatened whenever he shall develop a new object relationship.

I have presented two extremes. In the one environment the processes of growth appear to be ideally regulated by the infant's own needs, the mother responding to them in a way which all but repeats the symbiosis, permitting the infant to develop to independence at his own pace. In the other environment, the symbiosis was interrupted, the nursing care did not supply enough gratification to enable the infant to develop emotional—interpersonalized and intrapsychic—defenses against anxiety. These extremes illustrate that the ego's capacity to learn to master the object world goes hand in hand with the development of object-libidinal relationship. The ego structure developing through the buffer of confidence has a greater span and flexibility in adaptation to reality. In contrast, if the psychic economy is not relieved by a sense of security in the relationship with the mother, but has to concentrate upon mastering and avoiding anxiety, it will produce an ego structure fixated to rigidly conditioned adaptation. Such an ego structure may break down at any time when a new adaptive task emerges.

The interaction between mother and infant, however, can be studied in even more detail in the large majority of instances ranging between these extremes.

The activity pattern of the newborn depends upon the irritability of his nervous system on the one hand, and upon the degree of protec-

tion against the disturbing stimuli on the other. In the light of our discussion we may say that the infant born with a nervous system of greater sensitivity would need a longer, better-functioning substitute for the intrauterine symbiosis.¹⁰ However, experience shows that the mothers of the "nervous" babies are usually less able to provide their infants with an environment of fewer stimulations. The mature, normal newborn calms down under the influence of normal nursing care to this rhythm: need—crying—gratification—sleep. It takes usually four weeks, i.e., the neonatal period, to advance in physiological adjustment to a degree which assures smoother vegetative functioning.

It is observed that a large proportion of babies, instead of becoming "happier" at about the age of four weeks, show a new type of crying. Gesell and Ilg (1943) state: "The baby shows a tendency to cry prior to sleep." This "wakefulness crying" tends to occur in the afternoon and the evening. It loses its prominence at about ten or twelve weeks.

What is the cause of this irritability? In the light of our assumption that the mother as well as the baby has a need for continuation of the symbiosis, we may speculate on the significance of the baby's increased demand on the mother at a time when she begins to turn away from the baby and becomes more active in the other areas of her existence. Do infants then demand more intensely the re-establishment of the symbiosis? Or do they respond to the increased tenseness of the mother? Be that as it may, the infant has no means other than his crying fit for discharging tension. It is fortunate that the infant has no memory of the amount of discomfort and pain which his crying fit would indicate. The unreadiness of his nervous system, the lack of internal barriers (*Reiz-Schutz*), accounts for the spreading of the tension which may increase to a veritable "storm of excitation" and may invade the viscera (Peiper, 1929). It will depend on the degree of maturity of the vegetative nervous system and the gastrointestinal tract whether such excitation becomes bound to definite parts of the gastrointestinal system and its functioning. Thus, symptoms such as pyloric spasm, as well as colic, can be explained as steps in the mastery of the general excitation of the nervous system. Generally the intensity and frequency of such disturbances during the first three months measure the pace of interaction between mother and child.

¹⁰ First-born infants, on account of lesser maturation or on account of greater birth trauma represent a more difficult task to a mother who has also less maturity in handling the child. Thus the first-born infant's activity pattern is more fitful; it takes longer for him to quiet down than for subsequent children of the same parent. This statement must be checked, however, in regard to the many factors which may influence mother and child.

Melanie Klein (1932) assumes that infants, struggling with a breast which does not feed or which overflows, infants suffering from pain of hunger, colic, or other bodily discomfort, acquire the concepts of "good" and "bad" within themselves. Even if we do not follow Klein's complex psychologic elaborations, we may accept, on the basis of observation, that anxiety and pain (any sort of discomfort may cause anxiety in the infant) increase the urge to reestablish security by being close to the mother. The crying, grasping infant bites the nipple with force and suckles with greed; the sick infant, too, gasping with opening and closing of the mouth, wants to incorporate the mother, to re-establish the symbiosis which once supplied all needs without pain. If such intensification of the incorporative needs leads to gratification, the interaction between mother and child improves. If, however, the mother does not succeed in pacifying the infant, his physiological tension increases and the need for incorporation becomes more and more charged with motor energy. We speak of "hostile incorporation," although the psychic representation of hostility can hardly exist so early. But its model is formed. The *hostile incorporation* augments the internal tension of the infant; at the same time it alienates the helpless mother who feels rejected by her child. Thus while a vicious circle develops between mother and infant, another vicious circle within the infant becomes intensified. The infant, after his attempts at incorporation which have failed to satisfy his needs, is helpless and exhausted. Rado and Fenichel (1928, 1937) pointed out that the first regulator of self-esteem (*Selbstgefühl*) is the satisfaction acquired by all the processes connected with feeding. They assume that the early disappointments, anxiety, helplessness, which some infants experience in connection with feeding and digestion, may cause a sense of helplessness, of inferiority, of worthlessness, as if "badness" were existing within the self.

It is beyond the scope of this paper to elaborate how the primary self-esteem becomes the basis of ego development. Secure and stable, it is the core of a strong adaptable ego; helpless and insecure, it gives rise to a rigid ego structure which, under the strain of adaptive tasks arising later in life, may regress to the basic insecurity of early childhood. The regressive processes may then bring to the fore psychosomatic conditions which were determined by the developmental processes of infancy.

Summary

The psychosomatic (hormonal) aspects of motherliness were discussed in order to demonstrate the mother's biological need for con-

tinuation of symbiosis in the puerperium and during the child's infancy. This instinctual tendency toward motherliness corresponds to the helplessness of the newborn; it is gratified by sundry intimate functions of motherhood which supply both mother and infant with the gratification of their dependent needs. Motherliness, developing through sublimation of instinctual impulses, enlarges the span of the mother's personality; it encompasses her child.

The physiologic and mental apparatus of the infant represents a system which communicates broadly and fluently with the system of the mother—with all aspects of the mother's personality: with her id, her ego, and her superego. Through the processes of identification with the mother, the infant develops from the undifferentiated state of the newborn to an individual with structuralized mental apparatus which is in control of psychic and somatic processes.¹¹

¹¹ It would be a mistake to conclude that breast feeding holds the answer to all problems and that by itself it assures a conflictless evolution of the child-mother relationship. Long-term observations are necessary to evaluate the significance of breast feeding and the variations in its techniques for specific developmental conflicts.

CHAPTER 13

CLIMACTERIUM: A DEVELOPMENTAL PHASE

I wish to begin with a defense of the term "climacterium" which has made its way into the medical dictionaries only recently. The word was probably so neglected because of its hybrid, incorrect formation. It is derived from the word "climacter" which means "the round (or the bout) of a ladder"; thus "climacteric" refers to something or somebody's being around the top of a ladder and starting on the way down. Hence the popular term "change of life" is a meaningful translation of the medical term climacterium, which is often used even though the word may be a bit haphazard, linguistically speaking. It designates a particular period in life which is characterized by the termination of the reproductive period in women and is usually associated with the gradual cessation of the menstrual function—the menopause. Although the terms "menopause" and "climacterium" are often used as though they were interchangeable, the former should be reserved for one aspect of that period, the cessation of the menstrual flow, while climacteric or climacterium encompasses the more general bodily and emotional processes which usually coincide with menopause or follow it and which are not necessarily causally related to it. However characteristic of the climacterium these manifestations may be, they are dependent upon the previous history of the individual; they are motivated by trends which, woven into the personality of the mature woman, may be reactivated by the internal changes associated with that period.

The concept of climacterium as a developmental phase can hardly be defended from the biological point of view. The growth of the individual at the climacterium was finished several decades, a full generation, ago, when the physiological maturation channelized the "overflow of surplus energy" (Alexander, 1940) to nourish the propagative function. Now this source is exhausted. The climacterium indicates that the ovaries have ceased to produce mature ova, that the cyclical production of the two ovarian hormones (estrogens and progestins) has ended, and therefore menstruation, which generally appeared regularly for about thirty to thirty-five years now abates, indicating the end of the childbearing period. Helene Deutsch (1944,

1945) summarized the hormonal changes of the menopause: "With the cessation of ovarian activity, the remainder of the endocrine system is deranged in functioning." However exaggerated this may sound, the fact remains that at the climacterium the developing hypo-ovarianism indicates hormonal imbalance which may be accompanied by various systemic disturbances. The most generally known of these are manifestations of an increased instability of the sympathetic nervous system. Restlessness and insomnia, vasomotor instability, palpitation and hot flushes are the most common, immediate symptoms of menopause. Other physiological signs of ageing develop more slowly: the fat distribution changes, the breasts may atrophy, and in some individuals some growth of hair appears where before there was none. Ageing is an involutional process which hardly can be called "development" from the biological point of view.

The psychodynamic point of view, however, is different. Development is a process in which the internal physiological changes and the psychological processes stimulated by them are integrated (or responded to) in a way which enables the individual to master further environmental stimulations. While adaptation also includes regressive phenomena, development (as the term is used here) means progressive adaptation.

Do the observations justify the assumption that normal climacterium represents a progressive psychological adaptation to a regressive biological process? No doubt adaptation is necessary. There is no other period in life—except puberty—when internal changes of the organism put the individual's capacity to master those changes to such a test. And while puberty may be difficult for many girls, even greater is the number of women who at the time of their climacteric show signs of stress, strain and emotional disturbances of variable severity. Studies (Pratt, 1939) of the medical and psychiatric aspects of the climacterium are confusing. In surveys of large groups of women it has been shown that 85 per cent pass through climacterium without interrupting their daily routine, and of the remaining 15 per cent it could not be established that the menopause was the sole cause of the complaints. In a recent study, Greenhill (1946) questioned the advisability of using the term "climacteric syndrome." There are several recent psychiatric studies which speculate about the nature and cause of the reactive depression as the characteristic psychiatric picture of the climacteric woman. But to what are those women reacting?

Human development is determined by the past—as the past lives in the parents; in reference to women, specifically, the past resides in the mother, whose personality is continued in the daughter. For it is well known that the intricate processes of identification with the

mother during the preoedipal phase, and the struggles with her during and after the oedipal period, determine the girl's reactions to the pleasures and pains of that complex developmental task to which we usually refer as "the acceptance of the feminine role." Its first testing ground is puberty. The climacterium cannot be discussed without referring to some aspects of puberty, especially to the reactions to the first menstrual flow—the menarche.

Menstruation is one of the conspicuous manifestations of the physiological differences between the sexes. It signalizes the existence of an organ of which the girl previously was unaware and indicates its future functions of pregnancy and childbirth. It is no wonder that menstruation, often painful and always bloody, was surrounded in all cultures with a sort of mystic fear. Folklore as well as medical knowledge connected the ebb and flow of emotions in woman with the phenomenon of menstruation. Since Mary Chadwick (1933) published a psychoanalytic interpretation of customs related to menstruation, several other significant anthropological investigations have dealt with society's response to and its defense against the menstruating woman (Mead, 1939). These studies show that society, probably indicating man's society, is, or used to be, deeply afraid of the menstruating woman. This fear, expressed in a great variety of taboos and customs, necessarily influenced the girl's reaction to menstruation. She learned from her mother indirectly and by observation that she would be excluded from society, that she would be regarded as dangerous. As a result of such expectations, we all assume it to be quite normal that the girl responds to her menstruation with rebellion. In our culture, women and men alike are so accustomed to referring to menstruation as "the curse" that we can ask with some amazement why we readily accept the idea that women should be desperate when the pains and inconveniences of menstruation disappear from their lives.

Although the ageing woman does not appear to be a promising subject for anthropological studies, there are observations indicating that in several primitive societies the woman gains status and enjoys greater freedom in social functions after she passes her menopause (Simmons, 1945). Beyond the sociological setting, folklore and fairy tales reveal the emotional attitudes toward the ageing woman. There exists a large fairy-tale literature about the kind, discerning, loving, and undemanding grandmother; she is very often the one who undoes the harm of the world and the harm done by the parents, especially by the mother. (This aspect of fairy tales deserves special consideration.) Even more extensive is the folklore about the vicious, "bad," old woman. The various activities of witches in many cultures and

centuries reflect the fear which men, and women too, harbor regarding the old woman who has lost her charms, her capacity to love, and who, because of this loss, or (psychodynamically speaking) as a result of it, becomes hostile and irrationally dangerous. One fought against her during the Middle Ages with unreasonable, bigoted vigor. The stories about witches and witch hunts, and the documented processes against them, represent the struggle against the woman who became dangerous because she became sexless. Does this relate to the climacteric woman who is enraged because she has lost her ways and means of sexual gratification? Folklore knows better. It depicts the witch either as a young, narcissistic woman who does not desire the man and therefore is unconquerable by him, or as a very old woman who either never had children or hated them and therefore was completely disappointed and frustrated by them. Thus folklore accounts in a broad way, but very clearly, for those aspects in women's personality and fate which finally lead in some women to the picture of the aggressive and/or anxious—and in any case, unloving and self-centered—old woman. The model of that fairy tale is the old woman as she became after a long period of involution, and does not symbolize woman at the age of the "change of life."

It is well known that sexual excitability, desire for sexual gratification, and the capacity to achieve it do not cease immediately with the menopause; women who were not frigid before may keep their orgasmic potentialities for a long time. There are also some women whose orgasmic capacities, as if released from fear, definitely increase for a period during the climacterium. There is little of the mystic fear and the tendency to isolate the climacteric woman in the way menstruating women are customarily isolated in some cultures (Simmons, 1945).

On the contrary, women who are about to lose their propagative powers and sexual attractiveness gain power and prestige in many cultures. It would be interesting to know more about the emotional and psychosomatic reactions of women to menopause in societies like the Chinese where the woman becomes a real power within the family only after her son is married. The "change of life"—we may assume—is not as threatening to them as it is to women in our society in which youth is at a premium. Probably this prompted Helene Deutsch (1944, 1945) to state: "The woman [in the climacterium] is mortified because she has to give up everything that she received in puberty." This, of course, could be true only if woman received a gift of sexual maturity at puberty in one parcel and kept it as a stable asset until—just as traumatically as it came into her life—it disappeared.

Much of the exaggerated fear of menopause appears to be culturally determined. It is an expression of the expectation—in woman and in man alike—that the abating sexual function will be experienced as an irreparable blow to the ego. These observations do not, however, sufficiently take into account the changes which occurred in our own civilization during the last decades. In Western civilization, not only the general attitude toward the climacteric woman but also the attitude of the climacteric woman toward herself seem to have changed in many respects. The responsibility for this lies with the cultural process known as “the emancipation of women.” Study of the interaction of cultural and biological factors could be directly demonstrated in the evolution of the psychosexual personality of women in our times (Benedek, 1946).

The woman's life, more markedly than the man's, is divided into periods which are defined by the reproductive functions. There are many signs of physiologic maturation before the first menstruation. Recent investigations have shown that the onset of menstruation does not indicate complete functional maturity (Montagu, 1946); from the menarche to full physiologic capacity for childbearing several years may pass. These years of complex interaction between physiologic and emotional events of maturation represent *adolescence*; the length of this period, as well as its manifestations, show great individual variations. It should not be forgotten that female psychosexual development is more complex than that of the male, since woman has to adapt to sexuality not only as a pleasurable function but also to its painful aspects. Pain is an integrative part of the psychosexual experience of woman. This may be exaggerated by secondary masochism or may be erotized by the normal feminine libidinal processes. Which of these will be the fate of a girl is determined by many factors. The most significant is her mother's personality—her mother's emotional and sociological orientation to her own feminine functions. Through identification, this determines the girl's attitude toward herself as a woman; it motivates her reactions to menstruation, her acceptance of or her rebellion against the painfulness of the female sexual functions. Emancipation and mental and physical hygiene no doubt minimize the trauma of menstruation. Yet the psychosexual integration of menstruation in the total personality is a complex process of maturation which is usually not finished during adolescence. Psychosexual development receives new impetus when the sexual function reaches its completion by impregnation, pregnancy, and childbirth.

From menarche to menopause, in cyclic intervals, the woman prepares for conception, failure of which results in the menstrual flow. From one menstruation to another, with an average interval of twenty-eight days, the female sexual cycle revolves.

The sexual cycle in women represents a complete correlation between the preconscious manifestations of emotions and the hormonal function of the ovaries. (See Chapter 1 of this volume.) The busy life of a woman may cover up what is happening to her physiologically. However rarely and however little she may permit herself to express her emotional needs, dreams, and fantasies, the subtle changes in the tempo of her daily living reveal a close and unbroken response to the physiological stimuli originated by the ovarian hormones. These hormones, and this should be clearly understood, do not create the personality or its characteristics but do stimulate and bring to the fore the specific emotional needs which participate in creating specific emotional tensions. The woman responds to the estrogens—to the follicle ripening hormones—with an increased tendency for extroverted activity; her heterosexual desire increases parallel with it and usually reaches its height about the time of ovulation. After this, the woman is under the influence of the progestins, the hormones which prepare the uterus for nidation. This stimulation turns the woman's pre-emotional interest toward herself, pregnancy, and children. If pregnancy does not occur, the hormonal production declines, the uterine mucosa breaks down, and menstruation follows. The study of the premenstrual phase of the cycle, i.e., of the emotional events which accompany the physiological decline of hormone production, gives us a clue to the physiology and pathology of climacterium.

Freud (1932) recognized in his early observations that during the days approaching menstruation the woman repeats the neurotic constellation which she established at puberty. This concept has its validity today, although closer scrutiny of the hormonal and emotional processes qualifies its psychodynamic meaning.

In every cycle the woman's feeling of love, her capacity to love—sexually as well as in a more sublimated sense—increases with the rise of the sexual hormone level. It is our conclusion that the woman normally reaches the highest level of her psychosexual integration at the height of her hormonal cycle. This integration, in emotion and behavior, changes as the woman responds to the inner perception of the hormonal decline. Corresponding with Freud's original assumption of a "premenstrual neurosis," most psychoanalysts assume that women respond to the conscious expectation of menstruation as if it were a repetition of the trauma of the first menstruation. In this way

they explain that women, during the days preceding menstruation, often become restless, anxious, and irritable. Sensitiveness to being hurt, fearfulness, crankiness, and fatigue often alternate with tense, impatient, hostile moods which should indicate the woman's fear and resentment of the "fact of castration" which—it is assumed—menstrual flow represents to her. This interpretation seems to be justified, since the accompanying dreams and fantasies often reveal the young woman's anxious preoccupation with her body. Dreams often express the fear of bleeding, rebellion against femininity, hatred toward men, the wish to attack and hurt men, the fear of harm to her own body, or fear of being killed. Such reactions may be accompanied by sexual desire which has an urgent character, as if the woman, fearful of frustration, would demand gratification with the expression of hostility rather than love. Other women, or the same women in other premenstrual phases, may lack sexual desires; they are depressed and feel depreciated; a sense of loss, or a fear of losing something, may best describe their emotional state. Dreams then usually contain the symbols of anal-eliminative, soiling tendencies. During the premenstrual phase the woman appears and acts less composed, less mature; she is more dependent and demanding than she was at the height of the same sexual cycle. Thus, observation of behavior indicates a regression, however temporary this may be. A study of the psychoanalytic material reveals that, in correlation with the premenstrual hormonal decline, the libido (psychosexual energy) regresses from what is called the "level of genital integration" to a more primitive, anal-sadistic, or to a passive-dependent level.

If such regression may occur in every sexual cycle with the decline of hormone production, what should the woman expect when there is a permanent decline of hormonal production? Such monthly experiences would justify every pessimistic expectation in regard to the menopause, and on a physiologic basis would challenge the concept of climacterium as a developmental phase.

The persistence of premenstrual symptoms, their severity and character, have a prognostic significance for the climacterium. Yet fortunately, this itself belongs in the realm of pathology. Although one or the other of these symptoms may occur in every woman normally, the premenstrual symptoms decrease with the progress of psychosexual maturation. While dreams may still reveal signs of psychodynamic regression, the adult woman and mother, especially if she is not frustrated sexually, has usually little or only negligible signs of her premenstrual phase. There is a developmental absorption of those conflicts which are responsible for the premenstrual tension. (Here I mean by "conflict" not only the psychological but also the

hormonal aspect of the functional disturbance.) Physiological maturation, as well as emotional development, is favorably influenced if the propagative function evolves completely—if the woman has children.

There are women to whom life denies this fulfilment. Early disturbances of psychosexual development may be responsible for a personality which, in itself frustrated, impedes the woman's interpersonal relationships in such a way as to enforce external frustrations. A woman has to have a personality which permits her to be passive, to be loved and cared for, so that she may give in to her physiological needs with pleasure, without protest, and thus may enjoy pregnancy and motherhood. If her personality does not permit her to respond to her physiological needs, she will struggle against them within herself during every sexual cycle. These are the women who suffer from the symptom complex of premenstrual tension or premenstrual depression to such a degree that the condition may become an expression of serious emotional disturbance.

This is the case of a young, married woman of twenty-five, tall, slender, boyish in build, but feminine and sensitive in facial expression. She came for treatment for what she described as "negativistic behavior." Her withdrawal from social and professional life had started soon after she married, about four years previously. She had suffered from dysmenorrhea from the time she entered college and began to have more or less serious flirtations. Three to ten days before every menstruation, she was sick; she felt heavy and swollen, she had cramps, was depressed and irritable; a sense of hopelessness and emptiness alternated with an anger which she described as "wrath without adrenalin." She felt rage, without energy for expressing it. She had diarrhea, colic, nausea with her menstrual pain. Throughout her analysis she appeared to be sterile. During the time of the premenstrual depression and even at times when she was free from depression she was self-centered. She lived in fantasy and did not dare take any responsibility except taking meticulous care of her little household for fear that she could not live up to her own ideal. This was her rationalization for not wanting a child.

The patient was the second of two daughters. Her developmental history revealed that she suffered from the distant, reserved, undemonstrative attitude of her otherwise conscientious parents, especially from the coldness of her mother. As a preschool child she speculated as to whether or not she had been adopted. Her mother's answer to this question was, "So far as I can remember, I bore you." This answer the patient always consciously connected with her feeling that "nothing is certain in this world." Probably such frustrations drove her into temper tantrums so severe that her father once said, "Take

that child away before I kill her." Yet her need for affection turned her toward her father, who offered more tenderness than her mother. Her oedipal struggle ended with a strong masculine identification. In her fantasies she was often a boy. She and her sister fancied themselves brothers rather than sisters. Her fantasies showed that her feminine libidinal needs were in conflict with her masculine identification; yet her overcompensatory masculine drive was not too intense.

After she gave up her temper tantrums in childhood, she became rather retiring and shy. Her mother prepared her for menstruation in a purely intellectual way, telling her also about the changes she would experience in the "change of life." Thus she behaved very "reasonably" when she started to menstruate at the age of thirteen. Her menses came irregularly, at six- to eight-week intervals. She did not have severe pains until she was about seventeen years of age. On the purely physiological side we may speculate that this was because her ovaries were functioning inadequately. Viewing it psychologically, we may say that sexuality was not an actual problem in her life until she felt threatened by her awakening needs and rebelled against her feminine role. This is the usual explanation of dysmenorrhea. Now we must add that this "rebellion" was the emotional manifestation of an organic dysfunction: retarded development, puerile organs, insufficient hormone production went hand in hand with this patient's "psychosexual inhibition." She received hormone treatment for two and a half years, during which the intervals between menses became shorter but the dysmenorrhea did not improve. (It seems that intensifying the estrogen stimulation at a time when she was still struggling against her feminine desires was not an etiologically sound therapy.) Her marriage intensified the conflict. Depression, agitation, sensitivity, and quarrelsomeness increased. She was sterile.

Vaginal smears revealed that the patient's hormonal production was insufficient in comparison with that of women of her age. Although her psychoanalytic material had shown that she responded emotionally even to a slight degree of estrogen or progesterone production—the content of her dreams and fantasies changed characteristically with either of the hormone groups—her feeling in either case was frustration. Her own words often expressed clearly that she felt the deficiency in herself as a lack, a want, an emptiness which, she explained, "took part of her" so that the remaining part was unable to produce a feeling of satisfaction either in herself, by herself, or by her husband. Instead of responding sexually, she was "seeking that part of herself which she needed in order to be whole, satisfied, and satisfiable." The anger accompanying such a sense of frustration was

turned toward herself when she felt helpless, inferior, withdrawn. When it increased so that she could not hold it any longer, she projected the reasons of her unhappiness and discharged her anger against others, particularly against her husband. We may say the patient responded to the inefficient hormone production with emotions revealing a perception of being frustrated internally by processes, within her organism, beyond her control. The sense of futility, as well as the effort to discharge the emotional tension, necessarily created conflicts with her environment, in this case, with her husband. Thus the internal frustrations, the emotional manifestations of the lack of hormones, and the external frustrations (real or secondary, created by her own behavior) entered into an emotional vicious circle which explained her wrath as well as her depression. That the patient suffered from this most intensely during the very long low hormone level period before menses is easily understandable. For then, not only is the hormone level lower than usual, but the vegetative nervous system at this time appears to respond to the lack of hormonal stimulation with a greater sensitivity. In the premenstrual phase the ego seems weaker, the psychic apparatus less capable of fulfilling its tasks of mastering stimulation and frustration, whether produced without or within the individual.

This case demonstrates that the psychosexual development—arrested, involved, or complicated—may lead to an inhibition of the hormone production, which was perceived by this sensitive and introspective woman as an “internal frustration.”

In psychoanalysis the term “frustration” indicates that a drive is thwarted in attaining its goal. Thus frustration may be the result of external prohibitions or of the internal prohibitions of the superego which debar the instinctual need from gratification. It is assumed that the perception of being frustrated is dependent upon the dammed up libido, i.e., the psychosexual energy of the thwarted impulses. Here, however, we use the term *internal frustration* to refer to the patient's description of her feelings which reveals a perception of her inability to feel gratified. Although in this case we assume that this was the result of the development of her personality, this was not our concern in the study of the patient's hormonal cycles. In correlating the inefficient ovarian production with her sense of frustration, we assume that the latter expresses a lack of libidinous emotions rather than the reaction to or expression of “dammed up libido.” This distinction is significant for the psychodynamics of climacterium. For the sense of internal frustration—as the patient described it—not only explains many symptoms of premenstrual tension and depression but it is also in the center of the emotional experience of the climacterium.

Much of the confusion about the climacterium originates in the lack of understanding of the physiology and psychology of the sexual cycle. The "Sexual Cycle in Women" describes the fluctuations of emotional manifestations in correlation with the hormonal cycle. Although it contains only a sketchy and incomplete demonstration of immensely complex events, it permits a rough differentiation between two kinds of emotional tensions: one is created by, or can be correlated with, high gonadal hormone production; the other represents the manifestation of the lack of libidinization, and it seems to be created by a lack of desire, a sense of internal frustration which coincides usually with low hormonal phases of the sexual cycle. We know that the former, libidinal tension, expresses itself in sexual wish, desire, or need, while the latter manifests itself with anger and other regressive phenomena.

Keeping in mind what we know about the sexual cycle, many observations about climacterium fall in line. The emotional tension originating in the conflicts of feminine development may return when the hormonal function, which formerly neutralized (or libidinized) the tension during the years of sexual maturity, declines and its integrative effects dissipate. This may explain why many psychological aspects of climacterium seem to represent a repetition of puberty, especially the puberal reaction to menstruation. The rebellion of puberty appears to be repeated when the internal frustration of the declining hormonal function activates aggressive, hostile, and regressive behavior. Hormone therapy is considered to be the method of choice. Yet the complex psychodynamic motivations which lead to the symptoms—whether they be "premenstrual" or actually "climacteric"—may account for the failures of hormone therapy. While hormones usually alleviate the vasovegetative symptoms, they do not resolve the emotional conflicts without adequate psychotherapy. It requires a thorough understanding of the patient's personality to discover the emotional problem to which the woman responds when she suffers from a reactive depression. It is the consensus that the psychiatric symptoms around the time of climacterium can be classified as reactive depression.

Many women present a period of anxious overactivity instead of or before the development of depression. Women who could not develop enough emotional security, who feel that they did not achieve the goal of femininity, may be seized by fear of ageing or fear of losing their sexual attractiveness. These women appear to be driven, inwardly urged to start life again. Such women, more than others, will overreact to the outward superficial signs of the climacterium. Like a young girl who is afraid of blushing because it reveals sexual emo-

tions, the climacteric woman may be afraid that the hot flushes expose her secret. Fortunately, estrogenic hormones control the hot flushes completely and also diminish the other signs of physiological instability. Another manifestation of sexual decline in the climacteric is the tendency to indulge in eating. Nowadays women feel that they have to fight this tendency; thus they often enforce an external frustration at a time when they have to adjust slowly to the internal upset of their equilibrium.

In accordance with our observations on the premenstrual phase, we may assume that such narcissistic, more or less regressive, preoccupation is one of the manifestations of declining hormonal production which diminishes the ego's capacity to love. However, at a time when there is an increased tendency to regression, the woman has to meet the tasks of her life situation and they may be very complex and demanding just at this period. Not to mention marital discord which may occur on account of the changing pace (sexual and otherwise) between husband and wife, there may be many events upsetting the emotional balance of the family. Daughters grow away and begin their own sexual lives; sons bring home their wives. Many similar situations may activate tensions in the woman which she has difficulty in mastering. So long as she is able to relate her difficulties to actual situations and respond to them in the manner and degree that she did during her adult life, she is safe. In many instances, however, the external conflict activates responses in her which she cannot reconcile with her accustomed behavior or with her ego ideal. Then her self is hurt. Her ego-alien emotional responses threaten her. "This cannot happen to me" is an often-heard defense of the climacteric person. Which aspect of the decline will mobilize in the woman the disappointment in herself depends on the total personality. Any disappointment in the self engenders feelings of inferiority and self-accusations which may finally lead to severe depression.

The following two cases illustrate the psychodynamics of severe climacteric depression. One patient was a successful professional woman, compulsive in her personality make-up, rigid, and ambitious. She was unmarried and had never had sexual relations with men, although she was appreciated and respected as a friend and a clever companion. In her early forties, her relationship to one of her professional woman friends became intimate and sexual. She felt some guilt about this but was satisfied for many years. Then the early vasomotor disturbances of the approaching menopause forced her to take a vacation, after which she went to work with relentless vigor. Slowly she began to feel that her friend did not appreciate her work, that she was being taken advantage of. She became very "nervous," insecure,

and sleepless. She took another vacation—her need for it explained by her menopause. But while she was away from her work she became panicky. Suddenly she felt that everything was wrong with the friendship and the work which had seduced her into this relationship. Yet she hoped she could get hold of herself by mustering all her will power, collecting all her ego strength. "This can't happen to me," she repeated to herself, and while she fought against it, she became more and more aware of the failure of her ego defenses. She became desperate because her ability to do what she wanted and had found to be right had vanished. Her ego strength submerged in panic, she developed a psychotic episode.

On the basis of conclusions drawn from the premenstrual symptoms, namely, that the lack of hormone diminishes the ego's integrative strength, we can assume that as this woman's hormonal function declined, her ego (like that of some women in their premenstrual phase) lost the power to integrate all the demands of her daily life. Since she did not produce enough libido to meet those demands, she felt frustrated. She projected the reasons of her internal frustrations and began to respond with great sensitivity to an environment which before had been completely compatible and satisfactory. This oversensitive reaction brought about the patient's critical attitude toward her friend to her great disappointment. Clinically, one would say that this woman, in her menopause, developed a reactive depression to a grave disappointment which she experienced because of a homosexual relationship. Psychodynamically, we assume that the hormonal decline, and all the psychophysiological changes which it implies, mobilized a regression of the ego's integrative capacity. This regression brought to the fore various previously compensated aspects of her personality, such as oversensitiveness, narcissistic reactions, etc. Evaluation of all factors raises doubt as to whether one should consider such a depressive psychotic reaction as a simple reactive depression.

Another case ended with suicide. This woman, who had many advantages of money and education, was dissatisfied all her life. She was married, had children, had a profession, yet her narcissistic character neurosis interfered with every area of her life. Time after time she went from a blissful satisfaction with her own artistic understanding into a state of desperation, since she felt she could not share her own feelings with anyone else. Neither her husband nor her children could ever live up to her expectations. About the time of her menopause, the periods of depression became longer and increasingly severe, while menstruation still occasionally occurred. Her depression represented a rebellion against ageing; it progressed to a fatal termi-

nation because of her narcissistic character neurosis. Her emotional gratification resulted from intellectual and esthetic pleasures, yet her sublimations did not represent a balanced growth of the total personality. They went parallel with an adolescent expectation of purely platonic, idealized relationships with men—a sort of fulfilment of her bisexual tendencies—which should elevate her above the disappointments and dejection of female sexuality. She was unable to achieve happiness in interpersonal relationships. No matter how enthusiastically she began them, she soon reverted to herself, to her past, to her idealized experiences. The present never measured up to the past; she never measured up to her ego ideal. When ageing destroyed the hopes for the realization of her ego ideal, the flexibility of her ego was already exhausted by the great internal strain of many previous attempts, and with the beginning of old age the hope for narcissistic gratification became more remote than ever. As if she had overdrawn her account for substitute gratification, when the internal frustration became unbearable she committed suicide. Her rationalization was that she wanted to free her children from her inadequate personality. Thus she won a final (narcissistic-aggressive) victory: she did not need to go through the deterioration of ageing.

These examples demonstrate that the symptoms of psychiatric disturbances of the climacterium are determined by lifelong, individually characteristic methods of mastery of psychic tension. The analysis of the factors involved in the mastery of frustration—as it can be studied in the sexual cycle—may serve as indication for the psychic reaction to be expected about the time of the menopause. In the two examples cited, the psychic adaptation failed during and after the climacterium. If adaptation to frustration occurs always or usually at a cost of an increase in the narcissistic defenses of the ego, we may expect that the narcissistic armor will break when it becomes overtaxed by the internal and external frustrations of the climacterium. Yet it seems that in the cyclical repetition of the gonadal function, the woman has a method of practicing her adaptive capacities. The repetitiveness of the sexual cycle prepares the woman not only for the tasks of motherhood but, through the mastery of the emotional fluctuations corresponding to hormonal decline and menstruation, for the physiologic cessation of gonadal stimulation at the climacterium.

Psychoanalysis as a genetic theory of personality recognizes the marked influx of sexual energy as a crucial impetus to development. Our question is whether it is justified to characterize the more or less chronic but well-defined cessation of the reproductive function also as a "developmental phase." Its hazards and the factors which may be

responsible for its pathology have been discussed. It has also been shown that the pathology which becomes manifest or dangerously aggravated in climacterium existed previously. The climacterium adds only one factor: it diminishes that part of the integrative strength of the personality which is dependent upon stimulation by gonadal hormones.

Every developmental phase has its pitfalls. The psychoanalytic theory of neurosis and of personality development represents but an evaluation of the fate of the oedipal phase. In our culture the greater part of the libidinal influx which affects the oedipal phase has to be repressed in order that the personality may develop normally. The mastery of the oedipal complex—as Freud assumes—is a process of desexualization which is responsible for establishing human personality with its internalized psychic faculty, the superego. The sexualized eros needs to be freed from its genital-libidinal qualities to act as an integrative force. We know that at puberty the influx of sexual energy attacks the already achieved integrity of the personality; thus a period of developmental struggle follows, after which mature sexuality—socially permissible and gratifying function—becomes a fundamental part of a complex adult life.

Psychoanalysis has tried in various ways to formulate the psychodynamic meaning of mature “adult” love. We assume that it is a combination of genital-propagative tendencies with “goal-inhibited,” “postambivalent,” i.e., tender, protective, empathic qualities of heterosexual feelings. Helene Deutsch (1944, 1945), in her extensive study, has taken great care to explain the specific manifestations of feminine love and its sublimations—intuition and motherliness. Her concepts of a deeply rooted passivity and a specific tendency to introversion, as specific qualities of female psychology, were confirmed by our studies of the sexual cycle in women. Our investigation revealed that the “deeply rooted passivity” and the “tendency to introversion” are repeated in cyclic intervals in correlation with progesterone production; and we conclude that these characteristics of the emotional life of woman represent the psychodynamic manifestations of the female propagative tendency, the woman’s biological need for pregnancy and motherhood. The emotional manifestations of the passive-receptive tendency may appear regressive (or rather “recessive”) in comparison with the active, extroverted heterosexual behavior. Yet its monthly repetition can be considered as preparation for the withdrawal and introversion of psychic energies which motivate the moods and emotional attitudes during pregnancy. The concentrated libidinal charge of the body—a result of the physiological processes maintaining the pregnancy—enhances the woman’s willingness for and pleasure

in bearing the child; her pregnant body, like a reservoir replenished with libidinal feelings, becomes the source of motherliness. Motherliness, complex and emotionally charged, is not independent of hormonal functioning. As it unfolds with its many functions and shades of feelings, it serves not only the infant but also the mother; it affords her pleasures originating in infantile erotic as well as in highly sublimated gratifications. The emotional interaction between mother and child, while it establishes the child's identification with the mother, maintains and furthers the mother's identification with the child; for the mother's psychosexual life encompasses her child, all her children. Psychoanalytic studies reveal that with her daughter more directly than with her son—but with each child in a somewhat different manner—the mother repeats those emotional attitudes which originally determined her own psychosexual development. Thus with each child the mother takes the chance and has the hope of reliving and overcoming the conflicts in her own personality. Identification with the child may be the pitfall of motherliness as well as its bliss. Many mothers do not outgrow early, infantile-possessive identifications with the child, and various pathological distortions of motherliness ensue. Yet normally the mother progresses with her child, especially if she lets the child develop; she regains her own emotional independence as she permits her child to become independent of her. Motherhood, indeed, plays a significant role in the development of woman. Physiologically, it completes maturation; psychologically, it channelizes the primarily introverted, narcissistic tendencies into many psychic qualities designated "feminine," such as responsiveness, empathy, sympathy, and the desire to do, to care for others, etc. Thus from motherliness it is only one step to many forms of feminine achievement since these, or many of them, represent the extension and expansion of motherliness.

The accomplishments of the reproductive period—and this means not only the propagative function but also the total developmental achievement of the personality, its lasting sublimations, its capacity for love—will sustain the personality when the cyclically returning hormonal stimulation abates and the woman faces the "change of life." This change in the normal course of events does not occur as a sudden upheaval which breaks the established code of the personality, but evolves as a slow process of maturation. As the desexualization of the emotional needs proceeds, the balanced personality finds new aims for the psychic energy.¹

¹ In the discussion of this chapter, it was called to my attention that it may be confusing to the reader that we speak about the effects of the gonadal hormones as *stimulation* for development, and that then we state that the cessation of the gonadal activity serves again as sort of stimulation for developmental achievements.

From puberty to menopause the sexual cycle represents the individually characteristic

This statement recalls the oedipal phase and invites comparison. In the oedipal phase, repression of the sexual impulses leads to super-ego formation and socialization of the child; in the climacterium, the cessation of biological growth affects further intrapersonal integration—a transmutation of growth—and releases new impetus for socialization and learning.

Many of the interpersonal attitudes of the woman change. She does not love with youthful ardor, but much of her ambivalence, jealousy, and insecurity have been overcome. Thus her love becomes more tolerant and shows those "postambivalent" qualities which Abraham (1927) expected from maturation at a younger age. This attitude evolves unconsciously and effortlessly toward grandchildren; identification with her pregnant daughter or daughter-in-law permits the ageing woman to be a mother again—even if one step removed. It is well known that a woman's love toward her grandchildren is free from the conflicts of a mother toward her own children.

Closer to awareness, because they require more deliberate effort, are the middle-aged woman's intentions toward greater socialization. As if her superego would become stricter, she demands more from herself now than she did before; her ambitions may be reserved for her household or for accomplishments for the sake of her family, but almost as often it happens that her activities expand to include new and larger fields of interest. A greater social conscientiousness, and often an avid desire to learn, stimulates women to various, even if sometimes incongruous, activities for which—as they usually rationalize—they "did not have time" before.

Is it just a problem of time, of unaccustomed leisure, that women, freed from the tensions and fluctuations of sexuality, released from fears of and desires for childbearing, finished with the time-consuming duties of child care, suddenly feel an influx of extroverted energy? Probably one will be inclined to answer that women, emancipated from childbearing, throw themselves with great eagerness into a competitive, community life or even into professions and business in order to act out a "masculine protest," so long stagnant behind the duties of their "feminine role." It may be! Yet our case studies have shown that those women whose personalities have been exhausted by nar-

struggle between the sexual drives and the ego. The mastery of the resulting conflict-tension is in the service of the propagative functions, from the biological point of view. Psychodynamically, the same processes achieve a greater integrative capacity within the personality. Thus when the approaching menopause diminishes the fluctuations of the sexual drive, the ego is flexible enough to use the energies released from previous tasks for new integrations. (We used the terms maturation and development as do Hartmann, Kris, and Loewenstein, in their paper on "Comments on the Formation of Psychic Structure" in *The Psychoanalytic Study of the Child, Vol. II*. New York: International Universities Press, 1947.)

cissistic defenses and masculine protest do not show such a post-climacteric development; rather, they become sick. The women described here are not those whose activities, even if good-willed, become destructive because they are charged with aggression. Fortunately there is a larger number of those who, while they learned to accept frustrations and substitute gratifications in earlier life, become able to open up new areas of satisfaction for themselves after the climacterium. It is as if these women, reassured that their main job is done, may draw on the emotional capital invested in that achievement so that they overcome feelings of inferiority and insecurity which inhibited them before. No doubt the emancipation from sexual competition and from the fear of sexual rejection often releases talents and qualities unsuspected before. What may appear as the overconfidence of the dilettante may be growth for the individual. Measured on another scale, these attempts may be insignificant; their primary purport may be the individual's psychological gain: they enable some women to rise above regressive phenomena which make the climacterium such a critical period for others. Yet the uncountable attempts add up to an important contribution to the creative and social life of the nation.

Harvey O'Higgins (1924), in an excellent book, *The American Mind in Action*, deals with these problems in discussing the role of women in American society. With fine psychological understanding, he describes the various types of American woman. He gives greatest importance to the Puritan woman who used to be and still is the "home and mother type." To her he ascribes the emotional and ideological education of the nation. The effectiveness and influence of the American mother does not spread merely through the channels of home living and the raising of children. Much of the work was done, and is being done, through the almost inexhaustible idealism and educational ambition of women, outside the family, in community and cultural activities; and much of it is accomplished after they reach and pass the climacterium. All this would not be possible if women did not, and could not, meet the climacterium as a developmental phase.

Our discussion has dealt so far only with woman, in spite of the fact that one uses the term "male climacterium" to refer to phenomena attending the decrease of normal sexual function in the male. It is not our intention to present a study of the male climacteric here. Yet it seems opportune to mention that the male climacterium necessarily differs from that of the female, since there are fundamental differences in the biological functions of both sexes, and also in the cultural and sociological attitudes in regard to them.

In the female, the two psychodynamic tendencies of the propagative functions—the need for heterosexual gratification and the need for reproduction—are separated, while they are fulfilled by one act of the sexual function of the male. In the male, the sexual desire tending toward genital gratification reaches consciousness with a sense of active urgency, while the need for reproduction does not need to become conscious at all. Although there is evidence indicating that the human male also has a primary instinctual need for parenthood which he may express in the desire for offspring, yet the cultural and sociological significance of fatherhood usually overshadows the instinctual need. Accordingly, in the male there is no cyclically returning recession and reintegration of the gonadal and emotional pattern comparable with the female sexual cycle. Thus the psychosexual maturation of the male does not prepare him either for parenthood or for the cessation of the gonad function by a similar repetition of the adaptive processes by which the woman is prepared. In women the menopause indicates the cessation of the reproductive function in an unmistakable manner, even if a capacity for sexual gratification remains. In men the termination of the reproductive function is not expected as long as orgasmic potency remains. Actually, both the sexual urge and the reproductive capacity may be rekindled even if they appear to be extinguished. Thus men have not to meet the hazards and benefits of a "change of life," circumscribed in time and in its manifestations. Ageing is a slow, insidious process in men which they may fear and deny and against which they are not protected by an adequate emotional preparation.

In the patriarchal society, the social significance of the ageing man was beyond doubt. Whatever the oscillations of his psychosexual potency were, he did not need to feel threatened, since his importance as head of his family was not impaired and his social prestige was growing rather than declining. Our society, however, puts little premium on ageing. The decline of sexual potency becomes a double threat if marriages are insecure. In a competitive society the necessity to prove himself never ceases for a man. The man in our society, less protected by tradition than he was before (and less than women are protected even today), tries to compensate for his insecurity with increased self-reliance and with unceasing competitive productivity. And while these efforts sap his energy, he prepares for his old age only in terms of a "retirement plan." This is his illusion of security, qualified by the idea of having time to play. But play—even if he could succeed with his preparations for it in time—does not give enough gratification for an ego which is used to getting its satisfaction

by hard-gained and well-fought-for attainments. As long as the retirement age is far away, one can think of it with relish; when it approaches, the first signs of diminishing potency—sexual and otherwise—bring about a serious narcissistic conflict. The psychosomatic and psychiatric aspects of geriatrics deal with a great variety of attempts toward the mastery of the conflicts of the ageing man.

Various aspects of biological and social life converge to make ageing a task less difficult for women than for men. Probably this is the key to the secret that women, after they reach the end of their reproductive period, have a longer life expectancy than men in the corresponding age group. After the woman succeeds in mastering the adaptive task of her climacterium, she can plan an active life which promises much ego gratification. She can reap the harvest of her previous work, for she may feel loved and important in a family which now grows as a part of her but without pain and effort. Besides, whatever she produces with her sublimated endeavors is looked upon by herself, as well as by others, as a surplus. This surplus gratification—while it cannot propagate growth directly—sustains emotional satisfaction and helps to balance the regressive phenomena of the oncoming exhaustion of vital energies in senescence.

Summary

The climacterium is characterized as a period of intrapersonal reorganization in women. Parallel with the declining hormone production—menopause is a manifestation of that aspect of ageing—proceeds the desexualization of the emotional needs which in turn releases psychic energies for sublimation and further integration of the personality.

Anthropological data concerning menstruation and menopause are cited to indicate that cultural patterns determine to a high degree the anticipation of and the reactions to a physiological experience of the individual. In our culture the climacterium is anticipated with exaggerated fear. The psychiatric symptoms which often accompany the menopause are, however, not related in simple causality to the physiology of that event; rather, they are motivated by the psychosexual history of the individual.

Study of the sexual cycle affords the clue to the psychopathology of the climacterium. The sexual cycle represents the correlation between the hormonal function of the ovaries and the conscious and preconscious manifestations of emotions. The highest level of psychosexual integration corresponds to the peak of the hormone production;

parallel with the premenstrual hormone decline, a regression takes place. The manifestations of this regression represent the premenstrual neurosis.

An instance of premenstrual depression is cited to illustrate the fact that disturbed psychosexual development may lead to inhibition of the gonadal function, and that inadequate production of hormones may be perceived as a lack of libidinous emotions causing a sense of frustration from within. The individually characteristic methods of mastery of psychic tensions—as they may be studied in the sexual cycle—serve as indications of the psychic reactions to be expected about the time of menopause. Two cases of severe climacteric depression are presented to demonstrate that the failures of adaptation to the internal frustration of the menopause were determined by the already previously exhausted and rigid adaptive mechanisms of those individuals.

In the female, the two psychodynamic tendencies of the propagative functions—the need for heterosexual gratification and the need for reproduction—are separated; cyclical repetition of these two trends of the sexual drive prepares the woman for the complex physiological and emotional processes of her reproductive function. Motherhood is a further step in the integration of the personality. Physiologically, it completes sexual maturation; psychologically, it channelizes and sublimates the specifically feminine trends of the sexual drive. The accomplishment of the reproductive period and its lasting sublimations sustain the personality during the climacterium so that after the woman has succeeded in mastering the adaptive task of her climacterium she can plan an active life which promises ego satisfaction.

CHAPTER 14

THE FUNCTIONS OF THE SEXUAL APPARATUS AND THEIR DISTURBANCES

The psychosomatic approach to medicine meets its most promising challenge in investigations related to the functions of the sexual apparatus, for in no other field is the relationship between the psychological and the physiological aspects of a function so intimate as in sexuality.

It has been known since time immemorial that the sexual glands—the testes and the ovaries—exert a significant influence on temperament and behavior. Castration, the removal of the testes, as well as spaying, the removal of the ovaries, has always been employed on the farm to achieve temperamental changes useful in the domestication of animals and to achieve metabolic changes which make their meat more desirable. In the human, too, it has been observed that castration reduces virility, not only because it leads to sterility but because it is followed by bodily changes in the sex characteristics and by emotional changes which reduce the tendencies toward masculine activities. In a similar way in women, the early removal of the ovaries, or their innate insufficiency, causes sterility and interferes with the development of the physical and emotional female characteristics.

Spectacular experiments around the turn of the century established the role of the sexual glands (gonads) in the production of the sexual hormones. Freud's early assumption (1940) that "the disturbed chemistry of the (sexually) unsatisfied person produces anxiety and thus leads to other symptoms" was in accord with the expectation of other biologists of his time. In his first comprehensive study of the theory of sexuality (1930), Freud expressed the hope that endocrinology would hold the answer to the problems of normal and abnormal sexual behavior. Since then psychoanalysis has elaborated in great detail the role which sexual drive and its concomitant psychic energy—libido—play in the dynamics of psychic processes. It has established that the maturation of the sexual function and the integration of the personality are closely interwoven processes. But the endocrinological substratum of sexuality was not included in these investigations. Endocrinology went its own way.

After isolation and synthesis of the steroid hormones, experiments on lower mammals seemed to affirm the thesis that sexual behavior is under simple chemical control. It was established that in lower mammals the cyclical function of the ovaries governs sexual behavior: mating occurs at the height of the periodically recurring *estrus*—heat—which manifests itself in various recognizable activities leading to copulation. Observations of the primates, however, reveal discrepancies in the proportionate relationship between gonad function and mating behavior (Maslow, 1936). Primates may be stimulated to sexual activity by a variety of factors independent of estrus. In man, the complex and variable stimuli which motivate sexual behavior may conceal the physiological cycle almost completely. When it became evident that sexual behavior could not be explained simply in terms of gonad function, the role of the hormones in the hierarchy and in the interaction of the factors which motivate sexual behavior had to be studied.

From the large body of physiological information we shall cite the bare facts pertinent to the sexual function of all mammals. In both sexes the gonads are under the regulation of the pituitary gland. Through specific hormones, the pituitary influences body growth as well as many aspects of metabolism, and through its *gonadotropic hormones* it stimulates the maturation and controls the functions of the testes and ovaries. The process is simpler in the male than in the female. Under the influence of gonadotropic hormones, the testes produce the male gametes, the *spermatozoa*, and one group of hormones, the *androgens*,¹ which are held to be responsible for the physical and emotional characteristics of virility. In the female, the process is more complex: there is a reciprocal interaction between pituitary function and the ovaries which effects a rhythmical change in the production of gonadotropins, and this in turn effects the cyclic nature of the ovarian activity. The ovaries yield the female gametes—*ova*—and two groups of hormones, which are produced in sequence: *estrogens*, which stimulate the maturation of the sex cells, and *progestins*, which secure the nidation and maintenance of the fertilized ova. Both types of hormones have a specific influence upon the secondary sex characteristics and upon the emotional household of woman.

It is established that gonadal hormones are absolutely necessary for the completion of the maturational processes which lead to procreation. However, "the hormone is to be regarded not as a stimulus to behavior nor as an organizer of the overt response but merely as a facilitating agent which increases the reactivity of the specific neuromuscular system to stimulation." The physiological role of the gonad

¹ The chemical agent of androgens is *testosterone*.

hormones in the organism is influenced by "a genetically determined responsiveness of the nervous mechanism" (Beach, 1948). In man, the primary disposition of the nervous system to respond to internal and external stimulation becomes highly complicated by external (cultural) factors which modify the stimuli as well as the responses of the individual to them. Therefore the effects of the gonad function in an individual can hardly be separated from the psychological factors which determine the development of the personality as a continuous, functioning unity.

A review of the psychoanalytic concepts of personality development, which include the integration of the normal procreative function with all other functions of the personality, does not belong in the scope of this presentation. (See Alexander, 1940.) In order to elucidate the factors which lead to dysfunctions of the sexual apparatus, the role of emotional bisexuality in the psychosexual maturation will be discussed.

The *sex* of the individual is determined at conception by the chromosome make-up of the gametes. Through this, the embryo is endowed with a potentiality of developing toward one sex. There is evidence, however, that this development is not completely secure; that already in utero, conditions may occur which interfere with the development of the male embryo toward maleness. This occurs, for example, with the inundation of the male embryo with female sex hormones to such a degree that a "sex intergrade" develops. Thus not the genes but "external" hormonal conditions may account for a varying degree of *bisexuality* at birth (Hoskins, 1950). The term "bisexuality" refers here not to anatomical hermaphroditism or other manifest forms of "sex intergrades" but to a *specific predisposition for certain reactions to environmental influences*. The environment of the newborn is defined by the still existing symbiosis between mother and child. Through lactation and physical care, the mother conveys influences which have different significance for the infants of the two sexes. The hormones which the girl receives from the mother, as well as the developmental tendencies for identification with her, are in the direction of the goal of the girl's later psychosexual development. The boy, however, receives an endocrine influence through lactation which may intensify the feminine component in him; the development of the boy during the oral-receptive phase proceeds through identification with the mother, and this, too, may add to the tendency toward bisexual reactions which are in opposition to the goal of the psychosexual development of men.

The manifestations of psychic bisexuality can be recognized in the early pregenital phases of development. The two-year-old boy, if he is

a "real boy," shows a tendency for self-assertion and independence, while the "sissy" is afraid of any new step and recoils from self-assertion in order to assure his continued dependence on the mother. It is not known whether endocrine factors play a role in such phenomena. Children of both sexes produce small amounts of estrogens and androgens; it is not known, however, whether these hormones participate in the "surplus excitation" which produces pregenital libido (Alexander, 1948). Neither is it known whether there is any change in the "gonad" hormones when the child enters the *oedipal phase* and turns his erotically colored demands toward the parent of the other sex and by this means becomes "guilty" and afraid of punishment from the parent of the same sex. It seems beyond doubt, however, that the psychodynamic result of this crucial conflict is strongly influenced by the bisexual components of the psychosexual anlage. The "emotional reality" of the *castration complex* is only partially dependent upon the intensity of the instinctual wish; it is just as dependent, or more so, upon the environment: upon the punitiveness and seductiveness of the parents, upon the child's security with them; last but not least, it is dependent upon the child's disposition, which makes him experience as a psychic reality the idea that castration, the loss of the penis, is possible. (Alexander and Staercke pointed out that the little boy is prepared for castration fear by such early sensations as the loss of the nipple from the mouth and the loss of the feces from the anus, since he once considered these a part of his self. In the same way, the fleeting sensations of erections, which come and go without his control, may frighten the child). Psychoanalysis usually reveals that the discovery of the female genital region is the trauma which fixates in the mind of the little boy the idea that the penis can be lost, since there are human beings without it. To him, therefore, the female genitalia may appear as a devouring organ which may incorporate the penis and keep it. Identification with the dangerous individual is the most efficient defense against this fear. Through identification with the mother, the boy develops the "*negative oedipus complex*"; instead of identifying himself with his father in the tendency to love the mother, he wants to be loved by the father and wants to replace the mother with him. Such a solution of the oedipus conflict has great value for the emotional economy: it reduces the fear of the female genitals and it also postpones the fear of the father's punishment. The process is similar in girls with strong tendencies toward masculine identification. Such a girl, after she has experienced heterosexual impulses and thus gained the impression that the penis is a "dangerous organ," resolves the oedipal conflict by identifying herself with the father. Through the intense wish to have a penis, or

by the illusion that she has or will grow one, the girl represses the fear of the male genitals, and at the same time she develops the hope that she is loved by the mother in the same way as the father and/or the brother.

The manifestations of bisexual tendencies may be recognized during the pregenital phases in the variations of the child's identifications. It takes, however, the struggle of the oedipal phase to reveal the quantitative differences between masculine and feminine inclinations, between readiness to take the risks of heterosexual development and the tendency to recoil from it because of the strength of the opposing tendencies. Margaret Gerard, in her extensive study on enuresis (1939), points out that enuresis, as a neurotic symptom, is the manifestation of a bisexual tendency. Both boys and girls suffer from night terror, the content of which is the fear of being attacked by an adult of the opposite sex. The fear mobilizes the sado-masochistic excitation which is discharged by urination. The behavior of the boys is regressed, passive, and self-deprecatory; the girls are overcompensatorily active, motivated by their masculine identification. From the many possible variations of the oedipus conflict constellations, we have selected one which, because it enhances in the boy the feminine and in the girl the masculine inclinations, reinforces the bisexual tendencies of the individual.

The fixation of the developmental potentialities in a particular direction is one effect of the oedipal phase of development; another result is a new structuralization of the personality, which Freud termed the *superego*. This psychic institution represents the incorporation of the prohibitions which, in our culture, demand the repression of sexual activities in childhood. Through the controlling influence of the super-ego, the psychological factors gain weight in directing the process of sexual maturation.

The psychic equilibrium is a balance of functions in the various structures of the personality. Accordingly, it depends upon the strength of the ego—its capacity to repress the disturbing stimuli—on the one hand and upon the intensity of the stimuli on the other, whether the *latency period*, a period without awareness of sexuality, develops after the oedipal tendencies have been repressed. There are civilizations in which a latency period is not a cultural requirement. Yet there, too, society develops means and regulations to protect the children from their own and from adults' sexuality (Mead, 1949). In spite of the strict demands for repression of sexual impulses, there are many children who, during the age of latency (between six and eleven or twelve years), are disturbed by sexual fantasies and activities which lead to conflicts with their environment as well as with

their superego. In evaluating the factors which may be responsible for the sexual stimulation of the latency period, one may consider various possibilities: (1) An unqualified surplus excitation is channeled through the sexual apparatus; (2) irrepressible sexual stimuli are due to specific endocrine stimulation; (3) the ego's capacity to suppress sexual impulses is too weak and therefore the not-too-strong instinctual impulses may pass the barrier and request immediate gratification. Analysis may reveal a combination of the factors. It often occurs that the ego appears weak in suppressing the sexual impulses which originate in conflicting tendencies. On the basis of the psychoanalytic evaluation of the individual's development, one may appreciate the role which the sexual experiences of the oedipal and latency periods have played in modifying, precipitating, and/or arresting the psychosexual maturation. But there are no evidences of corresponding deviations in the processes of the endocrine apparatus. Psychoanalytic observations tend to prove that fixations on pregenital levels of sexuality, and their compulsive repetition during the latency period, as well as the castration fear which accompanies or motivates them, delay rather than accelerate the completion of sexual maturation. Fenichel assumed that "every fixation necessarily changes the hormonal status" (1945). This assumption could probably not be validated, even if the methods of endocrinological investigation were more refined.

At *puberty* the gonadotropic hormones of the pituitary gland stimulate the production of androgens and of the ovarian hormones, causing in both sexes the gradual appearance of the secondary sex characteristics. Puberty—the physiological maturation of the gonads—sets in motion the involved emotional processes of development which constitute the period of *adolescence*. The disquieting symptoms of adolescence represent the manifestations of a reorganization within the personality. This is set in motion by the upsurging "surplus energy" produced by the activities of the gonads and of other growth processes. It would be, however, an oversimplification to assume that during adolescence a physiologically mature sexuality struggles against the inhibitions which, originating in the introjected sexual prohibitions of the past and the sociological realities of the present, may delay sexual gratification. Recent studies of various South Sea people (Montagu, 1946) have revealed that a period of sterility exists during adolescence in women. This indicates that the completion of physiological maturation takes a long time, even in civilizations in which the psychosexual development does not pass through periods of repression and latency. It is simple to expect that the period of adolescence (and the completion of the physiological maturity) takes

even longer in our civilization where the goal of sexual maturation can be achieved only through the reconciliation of the sexual drive with all other functions of the personality.

During adolescence, sexuality changes from a general, pleasurable excitation to an essential need; its ideal satisfaction is achieved only by coitus with a member of the other sex. The upsurging sexual energy, however, stirs up the conflicts of previous developmental periods and their concomitant affects. It recharges the channels of pregenital gratifications and rekindles the anxieties which have accompanied the oedipal conflict. Thus, at the onset of adolescence, a deep-rooted anxiety separates the sexes. The severity of the adolescent conflict, in both sexes, is determined by its two psychodynamic components: the intensity of the instinctual need produced by physiological stimulation and castration fear, which, rooted in the previous developmental conflicts, is mobilized anew by the physiological stimulation. The adolescent process is an intricate interaction between physiological and psychic forces which normally leads to the resolution of the castration fear.

Sexual maturity means that the individual has learned to find gratification for his instinctual need in the framework of his conscience. This, even without any further elaboration of the dynamic processes, indicates that genital sexuality in the human adult is under the control of a highly structuralized ego. The genital sexual energy, on its way to achieving gratification, has to comply with conditions determined by the superego and has to overcome resistances set before it by the ego; both the restrictions of the superego and the defenses of the ego may deter and delay the free expression and the discharge of libido. However, not only the ego and superego but also the instinctual drives may present obstacles to the integration of sexual maturity: fixations on pregenital patterns of gratification may absorb sexual energy; anxiety, produced by pregenital conflicts, may deflect this energy and force it into infantile channels. Thus psychosexual energy may be completely or partially spent in intrapsychic processes. According to such considerations of the economy of intrapsychic processes, it appears that not the production of sexual energy but its spending accounts for the variations in sexual behavior in men.

Even a sketchy presentation of the interaction between sexual maturation and the development of the personality indicates that the integration of the sexual drive from its pregenital sources to genital maturity is the axis around which the organization of the personality takes place. Looking at it from the point of view of sexual function, the sexual drive is organized differently in male and female in order to supply the motivation for their specific functions in procreation.

Sexual Functions of the Male

The male sexual function is performed in a single act: in coitus. The man gratifies his active heterosexual need by this act and at the same time discharges the spermatozoa into the female genital canal and thus makes fertilization (conception) possible. The male sexual drive, accordingly, is under the control of one group of sexual hormones—androgens. In the adult there is a correlation between the gonad hormone production and the urgency of sexual impulses (Pratt, 1939). However, there is no regularly returning cycle of recessions and reintegrations of the psychosexual pattern comparable directly with the sexual cycle in women. One may observe in men emotional fluctuations which, although they do not occur with regular periodicity, appear to be dependent upon gonadal function. Their manifestations are clinically similar to a light depression. The psychoanalytic material reveals a change in the heterosexual tendency: the general extroverted activities, as well as the sexual desire, appear diminished; the psychosexual energy, concentrated upon the self, brings about a hypochondriacal mood. While in women such an emotional state may be considered as corresponding to low gonadal hormone level, in men the state of the corresponding gonadal hormone production has not been investigated. The tendency to such emotional fluctuations in men may be independent of the gonadal hormone production.

Whatever role the gonadal hormones play in producing and channelizing the genital sexual energy, there are observations which indicate that the end-organs of sexual functions may be stimulated by other than gonadal factors. In this respect, we may regard the perception of libido as the function of the psychic end-organ. Normally, libido is perceived as lust, as a pleasurable drive which, conveyed to the sex organs, sensitizes them to discharge the libidinal tension in satisfactory acts. In a recent paper W. H. Perloff (1949) described a case of a eunuchoid male who felt heterosexual urges and was able to achieve erection and orgasm. This case, as well as a similar case of a girl with ovarian agenesis who felt normal heterosexual attraction toward men, is unusual. But such cases indicate that in the human, libido and potency may be present although the gonadal hormones are diminished or absent. Other, not unusual, conditions, such as the hypersexuality of postclimacteric individuals, also demonstrate that the libidinal tension is not proportionate to gonadal hormone production. On the other hand there are disparities in libidinous feelings as well as in sexual behavior which cannot be related to the quantities of gonadal

hormone production measurable by the present techniques of investigation. The economy of intrapsychic processes—as discussed before—offers explanations for these phenomena. Since the psychosexual energy may be spent in intrapsychic processes, it is readily understandable that the genital sexual energy, although it may result from normal gonadal function, does not in every instance reach the effectiveness which is necessary for the integration of the psychic and somatic aspects of sexuality.

Sexual Functions of the Female

In woman, the ebb and flow of the gonadal hormone production renders the interaction between endocrine functions and psychodynamic processes accessible for study. The first of such investigations was attempted when the author, in collaboration with B. B. Rubenstein, studied the psychosexual manifestations of the ovarian functions (1942). On the basis of daily temperature charts and vaginal smears, the state of the ovarian cycle was established in a group of women who were undergoing psychoanalysis. The psychoanalytic records were analyzed in an attempt to ascertain whether there are changes and fluctuations in the psychosexual manifestations of the patients, specifically in relation to the ovarian cycle. On the basis of such study, a chart of the menstrual cycle was outlined. When the data, achieved independently, were compared, it was found that they almost exactly coincided; both methods were able to establish the significant phases of the ovarian functions. Sexual behavior in women is motivated by a great variety of factors; the biological tendencies are disguised and modified by cultural patterns and by the developmental processes which determine the individual variations in sexual expression. In spite of the complex psychological structure of human personality, this study established that (1) the emotional manifestations of the sexual drive, like the reproductive function itself, are stimulated by gonad hormones; (2) parallel with the production of estrogen, an active, extroverted heterosexual tendency motivates the behavior; (3) parallel with the progestin phase, the psychosexual energy is directed inwardly as a passive-receptive and retentive tendency; thus (4) parallel with the hormonal cycle, an emotional cycle evolves. The hormonal and emotional cycle together represent the *sexual cycle*.

The sexual cycle begins with the follicular ripening phase, during which estrogens are gradually produced. The active heterosexual tendencies can be recognized in overt or disguised sexual behavior, in dreams and fantasies, and in an increased alertness in the extroverted

activities of the individual. Indeed it appears that estrogens in humans, as in lower mammals, serve to bring about sexual activity. At the same time, estrogens also stimulate the ego to higher integration and coordination of its activities in other than sexual areas.²

About the time of ovulation, estrogen production reaches its height and merges with the incipient output of progestins; this continuation is the stimulus for the highest level of psychosexual integration, i.e., the biological and emotional readiness for conception. This finds expression in the enhanced libidinal readiness for receiving the mate, or, if this is thwarted, in an increasing emotional tension; this often characterizes the preovulative stage.

After ovulation occurs, the heterosexual tension is suddenly relieved and a period of relaxation follows; the direction of the psychosexual energy changes and becomes concentrated on the woman's body and its welfare. The effect is a generalized erotization; the readiness to receive the sexual partner is usually conscious; the desire for impregnation and for pregnancy is as a rule recognizable only in dreams and fantasies. While the activity of the corpus luteum (progestin production) increases, a period comparable to the "quiet period" in lower mammals develops and lasts for several days. The psychological material corresponding to this period might be summarized as preparation for motherhood. This may be expressed as a wish for or a fear of pregnancy and/or a hostile defensiveness against it. Analysis of this material usually reveals the repetition of the conflicts which the woman had in her childhood and which she may unconsciously maintain with her mother; one recognizes the striving for resolution of such conflicts and for reconciliation with the mother, especially in the acceptance of and desire for motherhood. In these cases, fantasies about having children and concern for child care are prevalent in the psychological material. If this level of psychosexual maturation is not achieved, the woman's regressive wish to be the child herself and to be taken care of is expressed, accompanied usually by a depressive mood.

If impregnation does not occur, the production of progestins declines and the ensuing low hormone level characterizes the premenstrual phase of the cycle. The woman's emotional reactions reveal her perception of "the moderate degree of ovarian deficiency" (Hos-

² In evaluating the intensity of the heterosexual need, one has to consider the changes in affects occurring after its gratification or on account of its frustration; in the latter situation, the emotional tension increases; in the former, it relaxes. In the same way, one must consider the defenses against the heterosexual tendencies in inhibited individuals. In such persons, in coordination with estrogen production, the characteristic defenses against sexuality are mobilized and become more and more affect-laden as the production of hormones increases. In infantile persons anxiety and/or hostility toward men may cover up the heterosexual tendencies.

kins, 1950) which the premenstrual phase represents. Parallel with this, a partial regression of the psychosexual integration takes place and *pregenital*—usually anal-sadistic and eliminative—tendencies appear in the motivation of the psychoanalytic material. This, together with the increased general irritability of the sympathetic nervous system, may account for the fact that the premenstrual phase is often described as the *recurrent neurosis of women* (Chadwick, 1932). Its symptoms show great variations: general apprehension and the fear of bleeding seem to revive the idea that menstruation is identical with castration; thus infantile sexual concepts may return in anxiety dreams and may also motivate irascibility when awake. In other cases, fatigue, crankiness, and weeping spells indicate a depressive condition. The hormonal state itself shows variations, and thus the premenstrual phase has different emotional concomitants in different individuals; it may also change in the same woman from cycle to cycle. The psychoanalytic material of the late premenstrual phase reveals correlations with (a) low hormone level, which is the result of simultaneous decrease in both hormones; (b) declining progesterin and incipient estrogen production; and (c) declining progesterin and increasing estrogen production. The latter is a constellation in which the eliminative tendency, concurrent with declining progesterin, fuses with the heterosexual tendency. The corresponding emotional state is characterized by an increased tension which lends a "driving" quality to all activities during these days. In many instances the woman is satisfied that she is doing more work than other times, but most often they complain about the restlessness which accompanies their overactivity. At the same time the sexual desire shows an urgency which the same woman may not experience in other phases of her sexual cycle. Describing the same phenomenon from the point of view of the ego, one may also define it as a regression, as if the ego had been deprived of some of its integrative capacity and is unable to mediate between the various needs; all desires appear imperative, all frustrations unbearable; all emotions are less controlled and the woman appears less composed than during other phases of the sexual cycle. Fortunately, the reaction to the premenstrual hormonal fluctuation does not remain the same during the whole reproductive period of a woman. With further sexual maturation, especially after childbearing, the regressions appear to be absorbed by the adaptive processes of the development.

The end of the sexual cycle is marked by the menstrual flow, which, ushered in by a sudden decrease of hormone production, continues for several days. Soon after the flow is established the tense mood relaxes, the excitability decreases, and the adult woman accepts

menstruation usually with relief. The depressive attitudes are apt to continue from the premenstrual phase into the period of flow. Although this may be explained on a hormonal basis, it is interesting to note that the corresponding psychological material can be interpreted as *regret* over the failure of pregnancy. Women then often recall sad experiences or have remorse about previous abortions; they depreciate the female genitals, which appear to them superfluous; they identify menstrual flow with feces, and thus the genitals are considered dirty and the personality depreciated. After a few days, normally still during the flow, the follicular function of the new cycle begins again and concomitantly sexual stimulation and a state of well-being arises.

This is, indeed, a schematic outline of the sexual cycle but it may suffice to demonstrate that the cyclic fluctuation of hormones forces the emotional processes of the adult woman into certain regulated channels.

On the other side of the ledger is the influence of emotional factors upon the gonads. The comparative study of a series of cycles of the same woman reveals the effects which stimulating and inhibiting emotional factors have upon the *course* of the gonadal cycle. It is well known that emotions may precipitate or delay the menstrual flow; less known is the fact that the time of ovulation also may vary under similar influences. For example, gratifying or exciting heterosexual intercourse may facilitate ovulation, while frustration or fear may inhibit it. The oscillation in the time of ovulation is such that probably no invariable period of infertility exists in the human species (although this condition is approximately reached in the last week preceding menstruation). In the same way, the number of ovulations, the frequency of anovulatory cycles, and the symptoms of the premenstrual phase—more in some women and less in others—are also influenced by emotional factors. The comparative study of the sexual cycles of several individuals reveals that the pattern of the cycle unfolds in accordance with the constitutional and environmental factors which determine the structure of the personality. The most obvious characteristic of the cycle is its length—i.e., the interval between two menstruations. The average length is 28 days; some women menstruate in 21- to 23-day intervals; others, also within the range of normal, have cycles of 32 to 35 days' duration. Most revealing for the pattern of the hormonal cycle is the intricate relationship between the estrogen and progestin phases of the cycle.

Progestin is the specifically female hormone. While estrogen may be produced in varying degrees from childhood on (and in both sexes), progestin develops only after puberty as a function of the ovum. It is understandable that its relation to estrogen production,

its relative deficiency or its preponderance, determines the variations of the cycle. If the individual reaches normal sexual maturity without fixating traumata in the pregenital phases, the hormone cycles—i.e., the relationship between the estrogen and progesterin phases of the cycle—will be normal; this implies practically normal ovulation and normal length of the cycle. If—either because of constitution or crippling traumata or on account of the interaction of both—fixation occurs on a pregenital level, the disturbance of the psychosexual maturation will be reflected in the cycle. For example, in puerile bisexual individuals, the progesterin phase does not develop fully; they usually have short cycles. Women whose infantile fixation causes a prevalence of receptive-retentive tendencies (for example, cases of bulimia, obesity) usually have long progesterone phases and also long cycles. If the psychosexual development is even more inhibited, long low-hormone periods characterize the cycle; menstrual flow may occur with irregularities within the normal range. While the pattern of the hormonal cycle unfolds concomitantly with those factors which determine the psychosexual development, the psychodynamic course of the cycle seems to repeat the development in condensed form again and again under the stimulus of the hormonal cycle.

The study of the sexual cycle permits significant conclusions in regard to the organization of the female sexual drive. Corresponding to the two phases of the female sexual function, it has two tendencies which act consecutively: an *active* tendency, the aim of which is to secure the sexual act, and a *passive* (receptive-retentive) tendency, which acts to secure the functions of pregnancy. Helene Deutsch (1944, 1945), through psychoanalytic observations, came to the conclusion that a "tendency toward introversion" and a "deep-rooted passivity" are the specific qualities of the female psyche. The study of the sexual cycle confirms this view and determines its physiological substratum. Since these tendencies become manifest at periodic intervals, parallel with the activity of the specifically female gonad hormone, progesterin, we are justified in assuming that the psychodynamic tendencies which prepare emotionally for motherhood represent a genuine quality of the female psychosexual anlage.

Pregnancy. When pregnancy occurs, the cyclic function of the ovaries is interrupted and is not re-established with regularity until after lactation is finished. The psychology of pregnancy—its basic psychodynamic processes—is readily understood in the light of what is known about the psychology of the progesterin phase. The receptive and retentive tendencies and the tendency for introversion of psychic energies also characterize pregnancy; the intensity, however, is multi-

plied manifold, corresponding with the highly increased hormone production.

The interaction between mother and fetus—the symbiosis—begins after conception. (See Chapter 12 of this volume.) The enhanced hormonal and general metabolic processes which are necessary to maintain pregnancy again produce “surplus energy” and replenish the reservoir of the mother’s primary narcissism. The pregnant woman in her vegetative calmness enjoys her body, which is abundant with libidinous feelings. This enhances her well-being and becomes the source of her motherliness. The primary narcissistic gratification of pregnancy increases the mother’s patience in regard to the discomforts of pregnancy. Another factor in the psychology of pregnancy is expressed by the intensification of the receptive tendencies. This is the manifestation of the biological process of growth which it serves. Not only may the pregnant woman want to “eat for two”;³ her dependent needs are also revived. She thrives on the solicitude of her environment, and if her dependent wishes are unfulfilled, the resulting sense of frustration increases the tension of her receptive needs which may destroy the primary narcissistic state of pregnancy and thus interfere with the development of motherliness.

Though pregnancy is biologically normal, nevertheless it is an exceptional condition which tests the physical and psychological reserves of the woman. While her total metabolic and emotional economy is concentrated upon the tasks of pregnancy, her ego appears regressed if measured by the usual level of its integration. At the same time, on a biological level, the span of the total personality expands to encompass her child. If the mother feels her growing capacity to love and to take care of the child, then she experiences a general improvement of her emotional state. Many neurotic women who at other times suffer from anxiety become free from it during pregnancy; others become free from depressions and from desperate mood changes. Many women, despite physical discomfort and nausea, feel emotionally stable and have a “good time” during pregnancy. Whether the general metabolic and hormonal stimulation is primarily responsible for such improvement, or whether gratification because the personality achieves its goal in procreation can account for it, remains to be evaluated clinically and probably varies from case to case.

Parturition. Recent studies by Dunbar (1946) and others have attempted to evaluate the influence which the mother’s psychological

³ Thomas S. Szasz in two recent papers discusses the hypersalivation occurring during pregnancy in the light of the regressive phenomena of the autonomic nervous system.

attitude has upon the process of parturition. They have employed various methods of "mental hygiene" during the supervision of pregnancy to diminish the woman's fear of the delivery. On the other hand, modern obstetrics employs hypnosis and various forms of anesthesia to render parturition painless. How much these procedures help the mother to recover from the delivery with the happy feelings of motherliness, and in what respect these procedures interfere with it, have to be evaluated on extensive case material. No doubt there are many instances in which the obstetrical trauma has alienated the mother from her child. But the great majority of women have delivered and still deliver their babies without anesthesia; they usually recover quickly and smile happily at the child. It is common knowledge that women soon forget the pains of birth. There are also many modern women who, having delivered the baby under anesthesia, feel deprived of the great sensation of motherhood; they complain that the lack of memory of the delivery made it difficult for them to accept the baby as their own and to feel "motherly" toward it.

Parturition interrupts the biological symbiosis between mother and infant. The process is traumatic not only for the infant but for the mother also. The hormonal changes which induce and control parturition, the labor pains and the excitement, even without the use of narcotics, interrupt the emotional continuity of the mother-child unity. During delivery the mother is concentrated upon her survival. After delivery, the love for the newborn wells up in her as she first hears the cry of the baby. With the feeling of a "good job well done," she relaxes; her organism prepares for the next function of motherhood—*lactation*.

Lactation is a function which is stimulated and maintained by a specific hormone of the anterior lobe of the pituitary gland, *prolactin*. The influence of prolactin upon the performance of the tasks of motherliness is well studied in animals. In the human, one is inclined to neglect the purely physiological aspects of such a highly valued achievement as motherliness. The physiological preparation for lactation indicates that after parturition the mother's body is not yet ready to give up the symbiosis with her infant: lactation represents an extrauterine (partial) symbiosis between mother and child. The psychodynamic concomitants of lactation are similar to those of the progestin phase of the cycle.⁴ During this phase, the intention toward motherliness is expressed by active and passive receptive tendencies.

⁴ Prolactin and estrogen act as antagonists. During pregnancy the high estrogen production suppresses mammary function; during normal lactation prolactin inhibits the estrogen production. Most women, therefore, do not ovulate or menstruate during lactation.

During lactation, these tendencies gain in intensity; they become the axis around which the activities of motherliness center. The mother's desire to nurse the baby, to be close to it bodily, represents the continuation of the original symbiosis, and this produces pleasurable tactile sensations not only in the infant but also in the mother. While the infant incorporates the breast, the mother feels united with her baby. The identification with the baby permits the mother to "regress," i.e., to repeat and satisfy her own passive-receptive dependent needs. Through the process of identification between mother and child, lactation permits a slow, step-by-step integration of normal motherliness. If this process of the mother's development is suppressed, the enforced changes in the hormonal function may disturb the psychosomatic balance which is the source of motherliness.

The vulnerability of the woman's development to motherliness can be explained by a summary of the psychosomatic processes of the puerperium and lactation: this phase in the mother's life is dominated by *oral-receptive tendencies*. That the intensification of the oral-receptive tendencies represents the psychodynamic conditions for the development of depression is a well-established concept of psychoanalysis (Abraham, 1927; Freud, 1932). Thus the psychodynamic tendencies concomitant with motherhood and nursing predispose the woman to self-criticism in regard to the same functions. She becomes oversensitive in regard to her ability to be a good mother. Every indication of her failure—the crying of the baby, for example—increases her sense of inferiority and may create anxious tension and depression in her. As the suppression of lactation may interfere with motherliness, so failure of motherliness, originating in other sources of the personality, may interfere with lactation. Folk knowledge had always assumed that the mother's emotional state influenced her capacity to nurse the baby; if she were happy, her milk was "good" and the baby thrived on it; if she were unhappy, depressed, or excited, the quantity and quality of her milk changed and caused colic and other suffering in the baby. It is the task of further study of the external symbiosis between mother and child to provide a scientific explanation for these challenging observations.

When lactation is finished, the mother's reproductive task with one child is completed; the cyclic function of the ovaries is re-established in order to prepare her for the next offspring. Through the cyclic repetition of the preparation for motherhood and through the fulfillment of this instinctual need, the woman reaches her sexual maturation as well as the completion of the development of her personality.

The Menopause. The reproductive period in women lasts, on the average, about thirty-five years. Its decline approaches gradually; its end is marked by the cessation of the menstrual flow—*menopause*—which occurs during the period of “change of life,” i.e., during the climacteric or climacterium. In our culture this period is usually anticipated with apprehension, since women assume that the climacterium represents a period of severe mental and physical stress. Yet there are many women who hardly notice the transition; others suffer, for a longer or shorter period, from restlessness and irritability, from insomnia, palpitation, and “hot flashes”—i.e., from symptoms which can be attributed to the instability of the autonomic nervous system. There is evidence of a difference in the process of tissue degeneration of the ovaries in women who have not borne children as against those who have had several pregnancies. The menopause sets in earlier and with more intense reactions in the former group than in the latter. This finding is in harmony with psychoanalytic observations, namely, that with complete sexual maturation and function, the regressive emotional manifestations which characterize the low ebb of the premenstrual hormone phase become absorbed by the adaptive processes of development. Thus when the gonadal stimulation subsides permanently, the emotional economy of the healthy woman is not severely threatened by this loss. With the integration of the personality once established, the woman becomes independent of gonadal stimulation for maintaining the sublimations achieved during the reproductive period.

Women who were unable to adapt to the monthly premenstrual hormone decline and had premenstrual depressions and dysmenorrhea are likely to suffer again from the discomforts of the climacterium. Many women suffer from neurotic, somatic, and even psychotic manifestations which, because they occur about the time of the menopause, are often attributed to the stresses of the climacterium. But the psychoanalytic study of such cases reveals that the symptoms which appear aggravated during climacterium had already existed (or if latent, had been preformed) in the precarious balance of the personality during the reproductive period. The life history and the personality structure in a great percentage of these cases reveal (1) that the bisexual disposition played a disturbing role in the development and (2) that the psychic economy was dominated—much like that of men’s—by striving of the ego rather than by the primary emotional gratifications of motherliness.⁵

⁵ Expressed in terms of hormones, we may say that the estrogen phase overbalances the progestin phase in the sexual cycle of these women.

The climacterium is different in those women whose adaptive capacity has not been exhausted by previous neurotic processes. When the cessation of biological growth releases psychic energy which was previously employed in the reproductive tasks, this gives the flexible ego of such women new impetus for learning and socialization. The manifold interests and productivities of women after the climacterium, as well as the improvement in their general physical and emotional health, prompts us to regard the climacterium, in the psychological sense, as a developmental phase. (See Chapter 12 of this volume.)

Psychosexual Dysfunctions

The dysfunctions of sexuality are often distinguished as manifestations of *hypo-* and *hyper-*sexuality. The foregoing discussion indicates, however, that such distinction has descriptive rather than psychodynamic or endocrinological significance. The terms designating the various symptoms of sexual dysfunctions do not refer to well-defined nosological entities. The symptoms may change in the same individual from one to another, motivated not only by more or less permanent developmental changes in psychodynamics but also by transitory circumstances which influence the mood and increase or decrease the desire as well as the anxiety related to sexual intercourse.

Sexual inhibition may be felt as shyness toward the opposite sex or as lack of interest in or antipathy toward sexual activity. It may be rationalized by fear of venereal disease as well as by the cultural demands for chastity. These emotions as well as their rationalizations serve as defenses against more significant sexual conflicts which may remain repressed as long as sexual intercourse is avoided. In this sense, impotence in men and frigidity in women can be considered as defenses of the ego.

Impotence is a symptom which deeply offends the man's self-esteem. It serves as protection against conflicts and impulses which might become threatening to the self if the ego controls were lessened by sexual ecstasy. Impotence, for example, may keep in repression sadistic impulses and fantasies. The fantasy that the penis is a powerful destructive organ which could do irrevocable harm to the loved woman is but the denial and projection of the *castration anxiety*, which is the basic motivation of all sexual inhibitions. The fear of losing the penis may interfere with developing erections or it may cause loss of erection ante portas. The severity of impotence may be measured by the strength or weakness of the erections. In light cases, impotence may be the result of a "negative conditioning," so to speak. After the man has experienced failure, shame and apprehension may

counteract his erection when intercourse is next attempted. Impotence represents a more severe symptom if motivated by conflicting bisexual tendencies; in such cases, erection may subside quickly or may not develop completely. The psychodynamic motivation of impotence is then closely related to that of *ejaculatio praecox*.

Ejaculatio praecox may vary in intensity and in frequency. The light cases are characterized by the shortness of the act and/or by the tendency for a passive outflow of the seminal fluid without the muscular rhythm of orgasm. This may occasionally occur in men of normal potency. It may happen, namely, that the eliminative urge, which is one element of the orgasmic act, overpowers the other, the withholding, retaining element. Such an incident may occur after long abstinence. Then the pressure of the seminal fluid seems to enforce a quick discharge, illustrating the fact that the male sexual organs have a primarily eliminative function. Abraham (1927) studied the various forms of *ejaculatio praecox* and described their dynamics, to which little has since been added. *Ejaculatio praecox* represents a fixation on *urethral eroticism*. This libidinal fixation is usually "trained" by enuresis and masturbation and is therefore connected with guilt and with inferiority feelings; it usually leads to an unconscious identification of semen with urine, which brings about the impulse to eliminate immediately when pressure is felt.⁶ This indicates that those who suffer from *ejaculatio praecox* have not integrated with the primary passive-eliminative tendency the active aggressive-eliminative component of the sexual drive without which the genital primacy of the penis cannot be achieved. Only a rhythmic change between such active eliminative and retentive tendencies creates orgasm. Abraham recognized the feminine orientation of the leading erotogenic zone in the case of *ejaculatio praecox*: the climax of excitement is felt at the root of the penis and on the perineum rather than at the glans and in the shaft of the penis. This indicates that *ejaculatio praecox* is motivated by the feminine component of the sexual anlage which in the process of sexual maturation has not been mastered and superseded.

Ejaculatio retardata is symptomatically the opposite of *ejaculatio praecox*: the tendency to retain overpowers the tendency to eliminate and thus interferes with orgasmic discharge. This symptom may also occur in individuals of normal potency, especially after sexual exhaustion. As a pathological symptom, it expresses the anxiety connected

⁶ This does not explain why there is such a resistance against retaining urine and controlling the sphincter. The symptom represents regression to an early phase of infantile functioning when the bladder was passively emptied, without the necessity of overcoming the tension of the sphincter.

with the loss of semen. While the castration anxiety in these cases does not affect the desire for and the power of erection and intromission, the ejaculation is inhibited by the anxiety of losing the self or by the fear of death. Therefore the retaining, originally anal-sadistic tendency takes over the regulation of the orgasmic rhythm. It would not be surprising if closer observation were to reveal that the symptom is related to functional sterility in men.

The fact that urethral eroticism is closely interwoven with infantile genital eroticism is responsible for the symptom of *enuresis*. This condition usually occurs during the latency period, and in the great majority of cases it is overcome when the gonad function sets in. The disappearance of enuresis at puberty is probably the result of the maturation of the sexual organs. The excitation which used to be discharged by the pregenital urinary eroticism becomes displaced to the genital organs and is discharged by nocturnal emissions.⁷ However there are cases in which enuresis persists after puberty.

The preoccupation with urinary eroticism in childhood leaves traces in the psychosexual household which may be reawakened by other than sexual stimulation. Not only libidinal gratifications provoke the child's preoccupation with urination; the first ego gratifications and the sense of mastery are also connected with the learning of sphincter control. Thus much of the child's self-esteem develops in connection with his first much-praised achievement. Later, during the latency period, the ego's striving for mastery, its ambition for success in competition, is expressed and remains forever connected with urethral eroticism (Jones, 1915). Therefore excitations originally not sexual in nature become discharged by the urinary tract. For example, anxious tension, especially if the anxiety is related to ego performance and achievement, may cause *increased diuresis*. The kidneys fill the bladder with large quantities of urine (of very low specific gravity) and compel a preoccupation with bladder control and urination. Some individuals erotize the process to such a degree that the drinking of large quantities of water and the ensuing discharge of large quantities of urine initiates diabetes insipidus. In other cases the polyuria itself activates anxiety in regard to bladder control; the fear of "being late" activates a sado-masochistic tension and *urinary frequency*. This enforced urination may be accompanied by *sperma-torrhea*. This is a leakage in which seminal fluid (or mostly prostatic secretions) escapes. Masturbation, or rather the fear of its results, may cause this symptom in younger men; however it occurs more

⁷ In girls, the equivalent of nocturnal emission, orgasm, can hardly be responsible for the cessation of enuresis after puberty. With the maturation of the sexual organs, other tendencies gain intensity and take over the discharge of sexual excitation.

commonly in older men, especially in the presence of an enlarged prostate and preoccupations with urinary frequency. It may then be one of the symptoms of the *male climacteric*.

The term *climacteric*, or *climacterium*, is often applied to the period of abating reproductive function in both sexes. The process differs in the male and female according to the different organizations of the reproductive function. There is no definite cessation of the reproductive period in men comparable to the menopause in women. In men, not only the sexual urge but also the reproductive capacity may be rekindled, even after they appear to be already extinguished. Nevertheless, with the advancing years, the sexual capacity declines noticeably. The way in which the individual responds to his waning sexual potency depends upon the total organization of the personality. The well-balanced individual takes it in his stride, finding compensations in his achievements and in his family. Some individuals, however—especially those of marked narcissistic character formation—may respond to insecurity about potency with a regression. Since a failure in potency may appear as an irreparable damage to the personality, it may activate the ever-latent castration fear; this in turn motivates the symptoms which make the assumption of a *male climacterium* justifiable. In some cases, with the loss of vigor, the erotization of regressive tendencies may occur; then urinary disorders, as described above, may develop. In other instances the effort to keep up the potency, when the integrating effect of androgens is already dissipated, reawakens infantile fantasies and tendencies toward sexual perversion. A pseudo hypersexuality may thus develop. Since the involutional period is one in which the gonadal hormone is known to be deficient, the perversions which may accompany it indicate that perversions do not represent hypersexuality in a physiological sense. They represent fixations on and regressions to pregenital sexual tendencies (Fenichel, 1945).

The term *homosexuality*, loosely used, includes all sexual practices between members of the same sex. The psychodynamic motivations of each variety of homosexual perversion are well established, beginning with the simple arresting of heterosexual development and including those of functional intergrade sexual conditions in which erotic feeling for the opposite sex appears inconceivable. However, correlations of psychodynamic constellations, with bodily and hormonal indicators of the sexual aberrations, are lacking. In some cases of homosexuality—but not in all of them and not in simple relation to the severity of the perversion—some aspects of the build of the body, the hair growth, gait, and gestures reveal that homosexuality is deeply ingrained, not only in the emotional but also in the physical

make-up. There have been several attempts to solve the riddle by determining the supposed endocrine imbalance for the purpose of proving that a reversed androgen-estrogen ratio is the basis of homosexuality. Since the variations of this indicator of bisexuality are great in so-called normal individuals as well, the results do not solve the problem of homosexuality. There are cases in the literature in which implantation of testicular grafts changed the direction of the libido. Hormone therapy usually fails, however, since the increased hormonal tension requires discharge in a homosexual direction (Perloff, 1949). In spite of this, psychoanalytic therapy seems to achieve a change in the psychodynamic constellations only in those cases in which the developmental retardation outweighs the biological motivating factors.

Hypersexuality and/or *precocious maturity* is described in the literature; there are no psychoanalytic studies of such individuals. There are some indications that the pregenital tendencies, which reach such preponderance in the psychosexual household as to give rise to lasting perversions, might have represented a partial precociousness, a partial hypersexuality in childhood. To express this in psychodynamic terms: partial instinctual tendencies may absorb such a great part of the available libido that, as a result, they cannot be integrated in the developmental process of sexuality; isolated, they drive toward independent discharge. Such partial discharge cannot channelize all sexual energy completely. Thus the need for gratification of the partial tendencies arises in quick sequences; they appear insatiable. Therefore perversions give the impression of hypersexuality. But measured on the total psychosexual balance, the minus quantity will be evident in the diminished orgasmic potency.

All the manifestations of hypo- and hypersexuality discussed here—except that of the male climacterium—demonstrate that the dysfunctions of the sexual apparatus are motivated by intrapsychic conflicts and thus by the internal consumption of psychosexual energy; somatic as their symptoms may be, they have no endocrinological correlate massive enough to be detected by the present methods of endocrinology. They are, in the real sense of the word, *psychosexual dysfunctions*.

The psychosexual dysfunctions of women are easily related to the function of the ovaries, since this is expressed quite directly in variations of the sexual cycle and in variations of the menstrual symptoms.

Frigidity, the most frequent psychosexual dysfunction, can, however, be related to the ovarian function only in rare cases of severe hypogonadism. In all other instances women may have any form and degree of frigidity and at the same time normal gonadal function.

No doubt many women have children and become good mothers without ever having experienced orgasm. For in women more so than in men, the quality of the sexual experience depends upon the mate, upon his potency and skill, upon his ability to overcome her shyness and her sexual fear. There are, of course, women whose orgasmic capacity is uninhibited and who also, by the anatomical constitution of the sexual apparatus, achieve orgasm easily. The complexity of sexual maturation in women, with all its cultural complications, is likely to create defenses against sexuality which are expressed by inhibitions of the woman's capacity for orgasm. The psychodynamic motivations of frigidity are the same as those of impotence. Frigidity is rooted in anxiety about the danger which remains unconsciously associated with the attainment of the sexual aim: in women, the fear of being damaged by the penis and the fear of pregnancy and childbirth. Yet the social and emotional significance of frigidity is very different from that of impotence. Frigidity is no obstacle to the reproductive function, as is impotence. Since female orgasm should be achieved by "passive co-operation," its failure does not offend the woman's self-esteem as much as impotence hurts the man's. Sexual practices which may help to overcome the woman's frigidity may often represent an obstacle in the man's own gratification; hence frigidity is often regarded as of negligible significance. In some mores—like those of the Victorian era in Western culture—orgasm was regarded as "unwomanly," and not having orgasm was considered to be a virtue. It is well-established that conversion hysteria is a correlate of the repression of sexuality required by such mores. Today frigidity is not considered a virtue, but a lack, for which women sometimes blame themselves and more often their husbands. While women admit their reactions to the frustration of their need for orgasm, their response depends upon the structure of the total personality. There are women who, in a sort of "motherly giving" attitude, are satisfied by partial gratification; others respond with anger and depression; still others, being afraid of frustration, anxiously watch the sexual act and control it with hostility; they thus interfere with what they want to achieve, as far as their conscious self knows. The emotional manifestations reveal the underlying sexual conflict that is usually based upon the conflicting bisexual tendencies which impede the orgasmic capacity.

Vaginismus is the extreme manifestation of the bisexual conflict and of the resulting sexual fear. This symptom represents the displacement of the expected sexual excitation to the perineal and vaginal muscles. While it protects the woman from the pain of which she is afraid, she suffers a self-created pain. Omitting here the sexual

fantasies which this symptom expresses, vaginismus achieves its goal by excluding the penis, by expelling it, or by painfully enclosing it. No doubt, sadistic and masochistic tendencies fuse in this symptom with urethral and anal eliminative and retentive tendencies. Thus the symptom can be paralleled with ejaculatio praecox and/or with ejaculatio retardata. Since the vagina is a receptive organ, vaginismus is an expression of powerful oral-incorporative tendencies; it seems to be the realization of the threatening idea of the "vagina dentata." Vaginismus occurs usually in young women whose psychosexual make-up reveals, besides the urethral and anal fixation, also their sexual infantilism. This is expressed not only in their emotional life but also in the incompleteness and immaturity of their sexual cycles. Yet the physiological and psychological aspects of the phenomena cannot be considered independently. If the sexual cycle of the woman who responds to her sexual frustration with anger and depression shows, parallel with this mood, declining ovarian hormone production, it cannot be determined with our present methods of investigation whether the low hormone level causes the dissatisfied mood or whether the anger and frustration suppress the hormone production. Women with more labile hormonal function seem likely to be frigid. It is, however, justifiable to ask whether the interaction of the factors which cause frigidity may also influence the ovarian functions through the medium of frustration and anger. It is well to keep in mind that the sexual cycle, once established, does not represent a stable, unchangeable pattern; this also gives a clue to the complexities of dysmenorrhea.

Dysmenorrhea (Dunbar, 1943) refers to the physical and emotional disorders which may occur twenty-four to seventy-two hours before, or soon after, the onset of the menstrual flow. In the pathogenesis of this syndrome, two aspects have always been recognized: (1) the physical, which was thought to be a lack of complete sexual maturity, and (2) the emotional, which was designated by the term "psychogenic factors." Symptoms of dysmenorrhea vary greatly although the same individual usually has essentially the same symptom group with each dysmenorrheal state. Some women suffer from pains resembling those of labor and discharge blood clots; others suffer from hyperemia and distention of the pelvic organs; still others have "membranous dysmenorrhea" and discharge the hyperplastic mucosa with much pain. No wonder that these women—usually girls—dread the menstruation and prepare for it as for an expected operation. The most frequent form of dysmenorrhea is "menstrual colic": abdominal distress, nausea, vomiting, diarrhea are its usual symptoms; migraine and other vasomotor symptoms, tachycardia or bradycardia, anxiety

states, and fainting spells may develop with any of these conditions. The emotional manifestations of the premenstrual tension and depression may develop without any of the physical symptoms of dysmenorrhea. However, they may appear with "menstrual colic" and accompany it with a sort of helpless wrath. The symptoms of premenstrual tension may imitate an agitated depression: a sense of frustration, anger, and restlessness fills the unhappy, unloving mood. The other type of premenstrual depression is characterized by increased sensitivity, sadness, and hypochondriacal anxiety. (These depressions are sufficiently severe so that, as long as they continue, women lose sight of the fact that the condition lasts for a few days only.)

Generally the symptoms of dysmenorrhea and premenstrual depression have the same psychodynamic motivation as the symptoms which represent the normal concomitants of the late premenstrual phase; in dysmenorrhea, however, the symptom manifestations are highly exaggerated. For example, the emotional manifestations which correspond to declining progesterone are motivated by the anal eliminative and retentive tendencies. In normal cases these tendencies are expressed in dreams and in emotional reactions to the menstruation (it is dirty, etc.), while in the case of dysmenorrhea the same tendencies motivate the autonomic discharge of the "menstrual colic." This in itself represents a complex and interesting problem. According to psychoanalytic concepts, this general nervous excitation could be explained by the anxiety which menstruation originally mobilized in these individuals, to which is added the fear of a repetition of the suffering. Physiologically it is known that ovarian deficiency increases the irritability of the autonomic nervous system. But dysmenorrhea does not occur in correspondence with low hormone production only; it is often a concomitant of high estrogen production in the late premenstrual phase and during the menstrual flow.

The following clinical facts may help to clarify this problem: (1) Dysmenorrhea rarely occurs in puberty; it usually develops in the later phases of adolescence. (2) It may occur in women who have had completely normal menstruation and have had children; but after maturity a regression may activate dysmenorrhea. An example of the first type of case:

This was a young woman who began to menstruate when she was thirteen. She had no "troubles"; her flow was not profuse and came irregularly in six-to-eight-week intervals. When she was eighteen and in college, she had several more or less serious flirtations. With these she developed extremely severe dysmenorrhea for which she was treated for two and a half years with hormone injections. Her menstruation became more regular in time, but the dysmenorrhea re-

mained just as severe. After she married, her dysmenorrhea became complicated by severe premenstrual tension. During her psychoanalysis, vaginal smears revealed a deficient cycle; she had normal estrogen phases and deficient progesterone phases. (She was sterile.) This suggests that the dysmenorrhea began when the erotic stimulation made sexuality an emotional demand, and at the same time it activated her resistance, her rebellion against the "feminine role." Her hormonal cycle revealed that, according to the level of her psychosexual maturation, she had an overbalance of estrogen stimulation, which may account for the dysmenorrhea.

An example of the second variety of case:

A young married woman had no menstrual difficulties before marriage. She became pregnant easily, and she had two children (age difference between them—two and a half years). When her second child was about a year and a half old, she suddenly felt strong aggressive impulses toward her children. She became panicky; she fought her panic with phobic reactions. Along with this she developed severe dysmenorrhea. Her feeling about menstruation was that it equates abortion and that she suffered because she did not want more children. Her emotional cycle had shown the fight against motherhood. Thus we assume that, corresponding and in response to her severe anxiety state, a regression took place. In this case we assume that the anxiety and guilty feelings increased the tonus of the autonomic nervous system and at the same time disturbed the balance of the hormonal cycle. The two factors together are responsible for the dysmenorrhea.

The psychodynamic responses to the late premenstrual phase are usually more intense and more complex than could be expected on the basis of the ovarian hormone production alone. In cases of dysmenorrhea, the specificity of the psychodynamic reactions are overshadowed by the autonomic nervous system reaction. Dysmenorrhea, although it represents a reaction to deficient (infantile type) ovarian function, is not a symptom of hyposexuality alone. Rather, it is a result of the diminishing control of the ego over the psychosexual conflicts. The conflicts, "returning from repression," mobilize anxiety and general nervous system reactions which in turn predispose the woman to an overreaction to the premenstrual hormonal change.

Oligomenorrhea means scanty menstruation at long intervals. It may be the sign of retarded sexual maturation on the basis of hypogonadism, but more often it occurs secondarily as a result of psychic regression. This was found, for example, in cases of bulimia and the ensuing alimentary obesity. Bulimia may develop in women who

respond to the female sexual function, not with masculine identification but with depression and with regression to the oral phase of development. The metabolic processes of obesity, as well as the depression, may be responsible for the manifestations of hyposexuality which usually respond well to psychotherapy.

Amenorrhea is a more serious form of oligomenorrhea. The two manifestations may interchange. Amenorrhea may be a sign of hypogonadism but it may also occur as a result of psychogenic influences. Among the psychogenic cases of amenorrhea, two main groups may be differentiated. One is the amenorrhea of young women who, in their defense against feminine sexuality, are able to repress the ovarian cycle more or less completely; with it, usually, the emotional manifestations of sexuality are not repressed. Thus they may go on fantasizing about a life rich in heterosexual experiences without having anything to do with the "dirty, painful, disagreeable" part of femininity. No doubt an organic disposition facilitates such an outcome; for similar intensity of psychosexual conflict and even greater intensity of anxiety in other cases motivate other symptoms, less interfering with the reproductive function. However, these cases respond well to analytic psychotherapy. After they become able to experience heterosexual stimulation, the amenorrhea usually disappears.

The other form of amenorrhea occurs as a part of the syndrome of *pseudocyesis* or "grossesse nerveuse." These terms refer to cases of amenorrhea in which the woman firmly believes that she is pregnant and develops objective pregnancy signs in the absence of pregnancy. It occurs quite often that under the influence of the wish for and the fear of pregnancy, the early symptoms of pregnancy appear, delaying menstruation for many weeks. The much-reported cases of amenorrhea of long duration with abdominal distention and with breast changes, imitating pregnancy, are complex psychosexual, usually conversion-hysterical symptoms. The symptom expresses the conflicts regarding childbearing on several levels. Usually these women are sterile. Being unconsciously afraid of pregnancy and guilty because of the often conscious hostility toward children, these women consciously clamor for motherhood and during the period of pseudocyesis enjoy the gratification which only pregnancy justifies.

The psychopathological manifestations of the reproductive functions are manifold. The reproductive urge—being only a special manifestation of the instinct of self-preservation—may be in conflict in each step with the interests, wishes, and desires of the self. This plays a role in the sexual pathology of men, too. In women, the conflict between self-preservation and the propagative function appears

warranted, since childbearing may be dangerous and the tasks of motherhood are burdensome. What has been said about the instinctual tendencies for motherhood, its developmental integration during sexual maturation, and its manifestations during each sexual cycle also exposes the conflicts which may lead to various pathological manifestations of the reproductive function. Women are usually unaware of their conflicts regarding childbearing until the conflicts become activated by the intensive psychic and metabolic processes of pregnancy. The emotional disturbance related to pregnancy may be described as a *hypochondriasis*. Hypochondriasis is the result of the concentration of (narcissistic) libido, which is perceived with anxious and worrisome awareness of the organ or organs which represent a source of danger (Ferenczi, 1926). Thus the same narcissistic cathexis which accounts for the contentment during normal pregnancy may provoke an intolerable anxiety if the woman's ego senses nothing but danger in motherhood. Analysis of the individual case will reveal whether the anxiety originates in the reactions to the bodily changes of pregnancy and in anticipation of the dangers of childbirth, or whether it is primarily caused by hostility toward the yet unborn child. In some cases anxiety regarding the body causes only hypochondriacal symptoms; in other instances the mobilized aggression may be projected on the child, who is hated and feared as the cause of all the disturbance. In some instances the primary aggression toward the child sets in motion a depression which may lead secondarily to hypochondriasis.

Psychoanalytic study of the various disturbances of pregnancy reveals that the same psychodynamic conflicts may be responsible for different pathological phenomena. We may assume that constitutional factors⁸ determine whether the developmental conflict will affect the somatic (hormonal and metabolic) processes of pregnancy or whether the same conflict will activate psychiatric disturbances. In some cases the fear of the pregnancy and/or the hostile impulses toward the child may act through suppression of the hormonal processes which sustain pregnancy, thus causing abortion; in other cases toxic vomiting or anorexia nervosa develops without any conscious awareness of the emotional conflict. In the "purely" psychiatric cases, the pregnancy may progress normally but the woman is suddenly stricken by panic which is rationalized by ideas of the harm which the growing fetus causes inside the body, or by fear of death in childbirth; the panic may be increased by suicidal impulses or by aggressive impulses toward the child. In the defensive struggle against the panic,

⁸ All other endocrine glands, besides the ovaries, especially the pituitary, the adrenals, and the thyroid, may be involved.

the woman may develop phobic reactions or depressions or may regress to severe schizophrenic psychosis ("postpartum psychosis"). In some cases, interruption of the pregnancy or parturition may lead to symptomatic recovery; in other cases it does not arrest the process which, once started, makes the woman feel inferior and guilty because she failed in her natural function. It seems that the onrushing metabolic processes of pregnancy recharge the developmental conflicts with such intense emotions that they overwhelm the ego and render it helpless in the face of the most significant integrative task in a woman's life.

More fortunate, in some respects, are those women who are saved from the realization of their conflicts in regard to childbearing by *sterility*. The study of the various manifestations of the inhibitions of the reproductive functions shows that fertility is relative. Infertility may be absolute in cases of pelvic and glandular abnormalities due to developmental defects and disease. All other forms of infertility are relative, depending upon a great variety of organic (metabolic) and psychic factors. And here we may repeat: so far as the psychodynamic motivations of sterility are known, the same conflicts which cause a hypochondriacal panic in one woman and depression in another may be elicited in connection with sterility in still another. The women who "suffer" from functional sterility are unaware of their anxieties and hostilities in regard to childbearing; they may go on asserting their unambivalent attitude toward motherhood.

So-called "functional sterility" has many variations; in some cases it may not amount to a real psychosomatic symptom because there is no somatic change. For example, a woman may appear sterile when the desire for intercourse is suppressed during the fertile period and the coitus takes place only during the infertile phase of the cycle. The somatic change leading to infertility may be a shift in the cycle so that ovulation occurs during menstruation, when coitus usually does not take place (Rubenstein, 1939, 1940). Thus the neurotic change of the desire for parenthood in either or in both marital partners may initiate sterility, and as a result of the interaction between the marital partners it may finally lead to suppression of fertility. There is greater organic compliance in the cases where sterility is caused by spasm of the fallopian tubes and their closure, and also in those cases where the psychosexual conflicts lead to a suppression of the ovarian function so that ovulation does not occur.

The motivations of functional sterility can best be studied by analyzing the woman's reaction to her infertility. The psychology of adoption, intriguing as it may be, cannot be included here. Yet the motivations which urge the woman to adopt a child after she knows

of her sterility afford insight into the psychology of motherhood as well as of sterility. Some women, urged by their natural motherliness, are eager to expend this on a child; if it cannot be their own, the adopted child is emotionally accepted as a substitute.⁹ In other women the urge for adoption covers the sense of inferiority, the damage to the ego caused by sterility; for some others, the adoption appears as a welcome solution for all problems, since, besides other satisfactions, it relieves the mother (the father as well, for that matter) from the anxieties and from the narcissistic conflicts which one may have in regard to the endowments of one's own child. All these factors indicate the complex involvement of the ego in parenthood. That such influences suffice to suppress the woman's ability to bear children is demonstrated by the cases in which the woman becomes fertile after she adopts a child. Although there are only few such cases published (Orr, 1941), this is not a rare occurrence. It seems that after the woman has been able to accept a child and "practice" her motherliness, her anxiety diminishes sufficiently to make conception possible.

It remains to speculate about the causes of the different degrees of susceptibility of the reproductive apparatus to the influence of the emotions. Since the conflicts motivated by the environment are limited and the responses to them differ in high degree, we may ask what are the constitutional factors which account for the intensification of the conflict on the psychological side. As a broad generalization, we may refer to bisexuality. On the organic side, constitutional factors may account for that vulnerability of the endocrine system which permits sterility.

The total or partial deficiency of gonadotropin causes failure of the gonads. *Hypogonadism* may occur in both sexes; the significance of its effect upon the personality, in both sexes, depends upon the cause and degree of hypogonadism and upon the age when the deficiency became effective. In men, deficiency of gonadotropin causes *eunuchoidism*. *Cryptorchidism* (the failure of the testes to descend into the scrotum) is also the result of the deficiency of gonadotropin and may lead to varying degrees of eunuchoidism. Castration, by accident, by surgery, or by disease such as mumps or tuberculosis, also causes hypogonadism. Male eunuchoidism is more conspicuous, probably occurs more often, and has been better studied than have been the cases of female "eunuchs." The latter are women born with atresia of the ovaries (Wilkins and Fleishmann, 1944); their physical and emotional make-up seems to be different from that of girls

⁹ This occurs mostly in situations in which a not sterile, motherly woman accepts the sterility of her husband and is able to become a good mother for the adopted child.

who had to be castrated early. Omitting the effects of hypogonadism on the metabolism and on the body build, our concern is only with its effects upon the emotional household.

Whether the lack of gonadal stimulation shows its psychological effect in early childhood, or whether this is the result of metabolic changes caused by the missing endocrine link, one recognizes hypogonadism early in the little boy's personality. It is probably the persistence of a neutral, asexual form rather than "femininity" which gives the striking impression of a deviation from normal boyishness. Boys with definite gonadal deficiency do not show the characteristics of "emotional bisexuality." They are, rather, asexual. In little girls born without ovaries, the asexuality is not as conspicuous. Probably our expectations decide our judgment, which recognizes the passivity of the little boy as pathological, while it accepts the passive little girl's "sweetness" as normal. Probably in girls the normal identification with the mother accounts for a behavior which is adequately girlish. The intellectual endowment and development capacity of the total personality determine the adjustment which such a child—either boy or girl—may achieve during the prepubertal age. It seems that this period evolves "normally," i.e., in a way in which the particular child would develop under the influence of his specific environment. Puberty is the time when the hypogonadism becomes painfully obvious to the individual and sets him apart from his group. The adaptive task of the girl appears easier than that of male eunuchoids. This is probably because the girl's undeveloped body and increasing shyness do not stamp her as conspicuously unfeminine. While her emotional life becomes deeply inhibited (constricted, in a sense), she may go along with her companions almost unnoticed. She does not become the center of hostile attention as does the male eunuchoid. Thus the male eunuchoid's personality development after puberty is dependent upon his capacity to adjust to his own inadequacy. This is a formidable task which is often made even more difficult by the unsympathetic attitude of the environment, even of the boy's own family. For the family cannot react to this condition with the same sympathy with which they would meet another inborn condition. The sense of shame which accompanies sexual failure modifies the reaction to the eunuchoid in such a way as to render his adjustment unbearably difficult. There are only a few detailed studies on the personality development and characteristics of the eunuchoids in our society. The more recent interest in their response to endocrine therapy centers mostly in the physical changes in their sex characteristics and sexual function. Carmichael (1941) published a case of a eunuchoid whom he analyzed. The psychoanalysis of this man began after the testosterone

propionate had produced the bodily sex characteristics which occur normally at puberty. The endocrine treatment was continued during the psychoanalysis. This patient had all the characteristic ego defenses of a severely inhibited, compulsive-neurotic personality. While his early development accounted for a severe superego, his symptoms developed mainly after the usual age of puberty when his deficiency activated his resentment because of his "castration" as well as shame on account of his inadequacy. However, his emotions were easily hidden in the correctly regulated life of a bank clerk. His emotions were "cold" and not too disturbing until the endocrine therapy actually stirred him up. Then he needed psychoanalytic therapy to resolve the conflicts which interfered with his adjustment to sexuality.

Tauber and Daniels (1949) studied the emotional adjustment to replacement therapy after surgical castration. Their observations revealed another aspect of the psychic influences upon hormonal action. The castration and the loss of sexual potency represent a trauma which brought to the fore the regressive trends of those individuals; the regression in turn interfered with the willingness to continue with the therapy. Psychological factors such as the patient's ability and willingness to experience sexual stimulation, to "put up a fight" for potency, etc., decide the effectiveness of the replacement therapy.

The influence of hypogonadism upon the integration of sexual drive and its manifestations in sexual aspirations is well established. It remains to ask whether severe psychic traumata in early childhood could interfere with normal integration of the endocrine functions to a degree sufficient to cause hypogonadism.

Helen McLean analyzed a patient whose case is revealing.¹⁰

A 22-year-old woman suffered from definite hypogonadism. As a child she had thought that she was short in comparison with other children. She began to grow rapidly when she was thirteen years old and grew even faster after a visit to her home when she was sixteen. Her father and mother were of normal stature. Her mother had borne eight children. There are no known endocrinopathies in her family. The patient was seventy inches tall when she entered psychoanalytic therapy. She had received endocrine therapy for more than a year; however, the epiphyses of the long bones were not yet closed and she grew another three quarters of an inch during the first year of analysis. She was an intelligent, sensitive, and self-sacrificing girl. She suffered because she "felt" like a girl, but physically she was not a girl; she had no breasts, she had never menstruated; the vaginal smears did not show ovarian activity. Her personality was markedly

¹⁰ Unpublished. The author is grateful to Dr. McLean for her permission to publish this case material.

that of a striving, independent person with the ambitions and givingness of a "good provider" (whether this means to be the father or the mother). She had a traumatic childhood. Her father and her older brother died when she was a baby, during the influenza epidemic in 1918. She lived with her grandmother until she was five years old; then her mother remarried and the patient lived with her mother and stepfather. The mother had six children at yearly intervals. Always pregnant and tired, she demanded of the patient that she act as a nurse for her and the babies. The patient was willing to serve, but when this involved staying away from school she decided at ten years of age to leave home. She worked as a nursemaid for neighbors and continued her schooling. Still she felt responsible for helping the mother and went home after she finished grade school. This was about the time she first noticed her unusual growth. Later she left her family because it was not "a good home for her" and then returned again when she was sixteen and her mother had her last child. This was the last time she attempted to live there. Since then she has not lived at home but she feels responsible for her siblings and helps them in every way. Her anger for her deprivations appears to be completely repressed. During her psychoanalytic treatment she enjoyed the attention of a sympathetic woman doctor, an indulgence which she had never had before. She relaxed some of her burdens; she stopped growing and developed slight, irregular "spotting." This might perhaps have happened as a result of the endocrine therapy, but probably the psychoanalysis permitted her to become "more womanly."

Retrospective analysis can hardly make certain which factors arrested this patient's endocrine development. We should consider her strong ego-tendency to repress passive-receptive tendencies. Did this occur as a result of identification with her father and brother who died when she was a year old? Or was this the reaction to the separation from the mother, which she might have experienced as a rejection? No doubt she tried to be the helper and protector of the mother, as if she would act in her father's place. Many factors in her later childhood might have reinforced her "masculine" identification. Probably the "oedipal tendencies" toward her stepfather required a concentrated effort of repression, and the need for identification with her mother was certainly discouraged by the behavior of the mother, who appeared weakened by many pregnancies, ineffectual, and demanding. Overwork and undernourishment were significant, but the emotional struggle against femininity also deserves consideration in the arresting of pituitary function.

The author analyzed an unmarried woman in her late thirties whose clinical diagnosis had for many years been Cushing's syndrome.

She was sensitive, intuitive, and highly endowed intellectually. During analysis she remembered a trauma with tremendously intense emotional discharge which occurred when she was two years old. The exactness of the recovered memory could be verified by family photographs and by other data. The patient, without interpretation from the analyst, found that this trauma, which occurred immediately after the birth of her brother and made her ashamed, guilty, and at the same time, boundlessly angry and helpless toward her father, caused her lasting fear of sexuality and avoidance of men.¹¹ Science can be satisfied only if such unusual psychoanalytic reconstructions can be validated by direct observations on the development of traumatized children.

The interaction between the organic (i.e., gonadal) factors and the psychosexual economy represents a labile equilibrium. Since the psychological side of this equilibrium is the result of sexual maturation, the reciprocal interaction between gonadal functions and emotions can be studied *longitudinally*, i.e., in the developmental history of the individual and of his symptoms. Since the equilibrium fluctuates under internal and external influences, it can also be studied in its *transverse sections*, i.e., in any selected situation.

The psychosomatic approach to the problems of sexual dysfunctions permits the construction of a series, at one end of which we may place the primarily organic dysfunctions and at the other the primarily psychologically determined conditions. Since each condition is determined by the interaction of the organic and psychic factors, either aspect can be considered to the exclusion of the other, for they represent mutually dependent variables which sustain the sexual attitudes and functions through the range from normal to abnormal behavior.

¹¹ The patient died of Cushing's disease about ten months after the interruption of the analysis, which had given her much relief.

CHAPTER 15

SOME PSYCHOPHYSIOLOGICAL PROBLEMS OF MOTHERHOOD

The habits and customs, the mores and ethos, which safeguard the propagative functions and the offspring of the human species are the result of complex interaction of physiological needs and social influences. Psychoanalysis has established the steps of the continuous communication between parents and child through which the growing individual incorporates the cultural demands in his personality and integrates them with the physiological processes which govern sexual needs and functions. This implies that when he reaches emotional maturity the individual has learned to reconcile the gratifications of his sexual needs with the requirements of the culture in which he lives. From this it follows that this goal represents a lesser demand in more simple societies, and therefore it can be achieved with more safety than in our society where the goal of development is a high degree of individuation. Since the female procreative function is a more demanding process than that of the male, it is almost to be expected that conflicts between motherhood and other aspirations of the personality may influence women's attitude toward their procreative function in a more significant degree than similar conflicts would disturb the male procreative capacity.

Sexual maturity, the attainment of physiological readiness for completion of the procreative function, is a gradual process. From *puberty*—the appearance of the physiological signs of the beginning sexual maturation—until the full functional maturity of the sexual apparatus is attained several years pass. This is true for both sexes. The boy has complete erections and ejaculations before he produces ripe spermatozoa. Menstruation begins in most girls before their ovaries are capable of producing mature ova, and ovulation may later take place before the uterus is mature enough to support normal gestation. This brings about a period of adolescent sterility (Montagu, 1946). Adolescent sterility is not an exclusive characteristic of human development; that is, the term does not refer to the delay of development caused by the complexity of cultural factors. It seems that all mammals which have been carefully studied in this respect pass

through a maturational process of "adolescent sterility." Young and Yerkes (1943) collected data on the chimpanzee which show that the variations in the sexual maturation of the female chimpanzee are very similar to those in the human female. Concerning human development, the phenomenon of adolescent sterility, naturally, was detected at first in civilizations where there is free sexual play and copulation between adolescent males and females, as for example, the Trobrianders of the South Seas. When a girl of these people becomes pregnant, sometimes several years after the onset of menstruation, the marriage ceremony acknowledges that her status has changed. She ceases to be the adolescent, free to play. In the established order of her society she takes her place among the mothers. There are no illegitimate children in these societies; there are no problems of wanting or not wanting the child; the young mother, mostly without clearly recognizable differences in her behavior, performs the traditional expressions of motherliness as she learned them from her mother.

The term "adolescent sterility" thus indicates that there are marked differences in timing and coordination of the physiologic maturation of the reproductive function, even if growth is not complicated by psychological factors imposed upon the individual by sexual restrictions.¹ Knowing the adolescent's struggle for achieving psychosexual maturity in our society, one is inclined to assume that the processes which lead to superego development (i.e., to the incorporation of parental and cultural prohibitions) necessarily lead to delay of the physiological maturation of the reproductive functions. Yet the correlation is not a simple one. While arrestation of physiological maturation may occur on the basis of inhibiting emotional factors, one cannot make the general statement that the stronger the prohibitions, the greater is the delay of sexual maturation. In this respect the primary constitutional anlage will determine the effectiveness of the emotional factors. If all variations were to be arranged in a continuous series, at one end of the series there would be those cases in which the stability of the physiological processes is such that normal sexual maturation is not influenced by emotions, and at the other end, those cases in which emotional factors can permanently arrest maturation. The greatest number of cases will lie between the extremes and will show a great variety of disturbances in sequence and coordination of the various phases of the sexual function leading to neuroses, as well as variations in sexual responsiveness, in fertility, and in motherliness.² The study of the sexual cycle in the light of the personality development of the individual illustrates these complex processes.

¹ The observations on adolescent sterility indicate that the lack of a "latency period" (Trobrianders, for example) does not accelerate the physiological maturation.

² See Chapter 14 of this volume.

According to the two phases of the female reproductive function, copulation and pregnancy, the ovaries produce two hormone groups: estrogens, which stimulate the ripening of the ovum (egg cell), and progestins, which prepare the uterus for the implantation of the impregnated ovum and help to maintain pregnancy. The psychic apparatus, like a seismograph, registers the changes—the qualitative as well as the quantitative fluctuations—in the ovarian hormone production and it motivates emotions which bring about the fulfillment of the biological goal. Corresponding to the estrogen phase, the emotions are motivated by an active heterosexual tendency, the aim of which is to bring about intercourse. Corresponding to the progesterone phase, the emotions seem to concentrate upon the woman's own body and its welfare. The four to six days of the progesterone phase represent a plateau of high hormone production in the normal cycle. This is a calm period. The heterosexual desires appear to be masked by feelings which might be characterized as preparation for motherhood. Although the emotions are regularly motivated by receptive tendencies which result in an introversion of the psychic energies, nevertheless the manifest content of the preparation for motherhood depends upon many factors. Age, developmental conflicts, the level of emotional maturity, as well as external conditions, determine whether the preparation for motherhood is expressed as a wish for pregnancy or as a fear of and/or a defense against it. In the same way the emotional preoccupation with motherliness and with the care of the child may vary in the same woman in different phases of her life. It changes from the passive wish to be the child and to be taken care of by her mother to the wish to be a mother and have children to take care of. If conception does not occur, the progesterone production declines and during the period of low hormone level in the premenstrual phase one may observe the emotions and analyze the desires and frustration which occur when the pent-up physiological preparation is useless and the emotional side of motherliness, or the anxiety about it, recedes, to be followed by the disappointment or by the relief of menstruation.

From menarche to menopause, in monthly repetition, the woman prepares for her reproductive function. The sexual cycle, from one menstrual flow to the other, shows on the average only slight modification. The duration, the sequence and length of its phases, the time of ovulation, appear to show but little variation. Yet the "microscopic" investigation by means of psychoanalysis and vaginal smears reveals it differently. This shows that the pattern of the sexual cycle is not identical in all women; that the sexual cycle does not evolve independently but in correspondence with the factors which determine

the personality. The phases of the sexual cycle represent a dynamic sequence, one phase determining the course of the other. Just as in the evolution of the gonadal cycle estrogen production is necessary for the completion of ovulation and for the ensuing progesterone phase, so in the integration of psychosexual maturity the capacity for heterosexual love prepares the woman for the "acceptance of the feminine sexual role" and with it not only the physiological processes of childbearing but also its emotional manifestations in motherliness.

The study of the sexual cycle thus reveals these facts: (1) hormones stimulate specific emotional responses; (2) the psychological factors which determine the personality development exert influence upon the hormonal regulation; (3) the interaction between psychological and hormonal regulation is continuous. This means that the sexual cycle, once established, does not remain an unchanging characteristic of the individual; emotions motivated by sexual drive as well as by other aspirations of the personality (ego drives) may exert conflicting influences upon the hormonal processes; they may change—accelerate or retard—the evolution of the cycle and may cause various shifts and irregularities.

All this indicates that "sexual behavior," on superficial examination only, appears to be independent of the propagative, biological meaning of sexuality. Closer scrutiny reveals that the difference between the female of other mammals and the human female is not an actual independence of sexual physiology but a more complex, more delicate, interaction between physiological regulation and the human personality. Because of this, sexual behavior in the human means not only the overt attitude; it implies the fears, anxieties, and symptom formations which result from the inner psychic conflicts which a woman may develop in regard to the reproductive function. It is therefore not surprising that in analyzing the emotions which accompany each phase of the hormonal cycle in adolescent girls and in neurotic women, we recognize more often the fears and conflicts. In the mature, healthy woman we more often see the gratifications and resolutions which follow the inner psychic adaptation to the hormonal regulation, to the physiology of womanhood.

If we consider the gonadal hormones and the specific psychic response to them as a *psychosomatic unit*, it is well to remember not only that hormones stimulate immediate emotional responses but also that emotions may acutely influence hormone production. Thus emotions may upset the timetable of the sexual cycle. It is well known that emotions may delay or precipitate the menstrual flow. It is less well known, although from a practical point of view more significant, that ovulation may be stimulated or inhibited under emotional influ-

ence. That extraordinary stimulation may precipitate the processes which lead to ovulation at any time in the cycle can be considered as the main factor in one-exposure conceptions or in unplanned pregnancies.

Fertility is a labile quality. It differs not only according to the individual, depending upon constitutional factors, but it also changes in the same individual, depending upon maturation as well as upon sexual potency and the compatibility of the partners. Here we emphasize chiefly the particular excitement of the first intercourse or that of the "forbidden" extramarital intercourse. These often lead to conception at times when ovulation in the normal course of the cycle is not to be expected. We think of this when a girl conceives in her first intercourse, sometimes even without penetration.

Every social worker is familiar with the case of the young girl who advances in her pregnancy almost to full term, convinced that "what should not be, cannot be," and clings to the idea that she was unaware of her pregnancy. Often she can cite the fact that she menstruated not only once but several times during the time of her pregnancy. Such cases illustrate how physiological functions may become dissociated under the influence of contradictory needs. Indeed, one part of her physiology seems to help the woman to disguise, even from herself, what she did not intend, while the other part of her physiology sustains the pregnancy and fulfills a deeper biological need for motherhood. Every psychiatrist knows cases which seem to illustrate another type of dissociation: the young girl who after her first intercourse or under the influence of the fear of her sexual desires is seized with anxiety that she is illegitimately pregnant. Her panic increases when the impatiently awaited menstrual flow does not appear. Her organism, as if not wishing to help her, may continue to produce various symptoms of pseudocyesis. It may be that her biological need for pregnancy is intense, but the anxiety produced by social standards interferes and may cause her to become permanently sterile. Indeed, neither the conscious wish for pregnancy nor the denial of it can be a direct measure of the woman's biological urge for motherhood, and even less can it prove her aptitude and readiness for that complex function which motherliness requires in our culture.

It is the biological characteristic of woman that her propagative function requires an introversion of psychic energies which goes hand in hand with a withdrawal of active extroverted tendencies. In every cycle the woman's capacity to love—sexually as well as in the sublimated sense of motherliness—increases with the rise of the gonadal hormone level. It reaches its plateau during the ovulative and progesterone phases of the cycle. When the active drive with its extroverted

integrative capacity appears lessened, preparation for the more significant biological integration required for pregnancy and motherhood continues. Thus the sexual cycle compels the woman to repeat monthly, in small measure, the psychic and somatic metabolism of motherhood, its psychologic gratifications as well as its dangers.

We cannot deny that the number of those women is on the increase whose personalities do not allow them to respond to the physiological needs of motherhood; that women are becoming increasingly insecure about their own motherliness. In our civilization, in which the active, extroverted, in some sense "masculine" aspects of the personality represent the educational goal of women, it is no surprise that the passive tendencies, inherent in the propagative function, may appear as a threat to many women. Therefore they may struggle against the biological need for motherhood during each sexual cycle. Many women respond more overtly to sexual stimulation at times when the hormone level is relatively low, and they suppress their sexual desires when they are in the fertile period. The conscious wish to prevent conception motivates such behavior in many women. In others, the more or less conscious defense against the passive tendencies is responsible for such an attitude. Yet the shift between the rhythm of physiological stimulation and the rhythm of gratification does not ensue without a disturbing effect. It brings about emotional disturbances originating in the frustration of the instinctual need. It may lead to regression of the need and in this way it may cause frigidity. In time it may influence the ovarian function itself, causing functional sterility.

It seems that to be a good mother is a highly complex task in our society. It requires that the woman have a personality which permits her to be passive, to be loved and cared for, so that she may give in to her physiological needs with pleasure, without protest, and thus enjoy pregnancy and motherhood. At the same time she must have an active ego, sufficiently strong to overcome the dangers of passivity and of the tendency to narcissistic withdrawal inherent in her procreative function. Fortunately all these factors function together more smoothly in reality than it would appear. In explanation, however, we must point out the factors which may lead to pathology.

Though pregnancy is biologically normal, it is an exceptional condition which tests the physical and psychological reserves of women. The interaction between mother and fetus—the symbiosis—begins immediately after conception. The enhanced hormonal and metabolic processes which are necessary to maintain pregnancy find their psychological expression in the increased manifestations of receptive tendencies; they result in a positive metabolic balance which produces

"surplus energy" and replenishes the reservoirs of the mother's primary narcissism. In her "vegetative calmness," the pregnant woman enjoys her body, which abounds in libidinous feelings. Furthermore, under normal conditions, the people around her, her husband especially and her mother, sharing in her happiness, readily cater to her dependent receptive needs. When she feels loved, the pregnant woman's love for herself is transferred to that which is growing in her womb and paves the way for her motherliness. It is a different situation when her dependent needs remain unfulfilled, or when lack of love for her husband or rebellion against motherhood disturbs the self-satisfied state of pregnancy. Then almost anything, the receptive needs themselves, or the changes in her body, may cause a sense of frustration instead of gratification. The resulting anger, hostility, and anxiety may subsequently lead to pathological regressions and may interfere to some extent with the development of motherliness. Normal motherliness is the result of specific biologic and psychic maturation. Although the progestin phase of the cycle affords a monthly "practice period," there are many factors, constitutional as well as environmental, which may interfere with its normal evolution.³ This completion depends upon the course of the pregnancy, parturition, and lactation. Observations prove that the completion of this maturational process is only rarely reached at the birth of the first child.

From this one may conclude that much disturbance is inherent in illegitimate motherhood. A woman who must hide her pregnancy is deprived necessarily of the indulgence and gratification of pregnancy; she hardly dares to fantasy about her child or about a future with her child. There are, of course, unmarried mothers who suppress their fears, who proudly want their child; yet in these instances, the evolution of motherliness is burdened by a rebellious attitude, by the woman's wish to be not only the mother but also the father of her child. Social workers more often meet those unmarried mothers whose emotional household, not replenished by the love and care of a husband, is impoverished by shame, insecurity, and anxiety. It is not surprising that such women feel that the growing child is an enemy to whom they have to sacrifice their future happiness, and therefore they turn against the pregnancy. Yet, analyzing the emotional motivations in each (individual) case, one finds that many of those unmarried mothers who make a desperate effort to interrupt the pregnancy harbor unconscious conflicts from the past which determine their anxiety and hostility in regard to pregnancy. Although unmar-

³ Yerkes' studies and other studies on chimpanzees show that apes also show differences in the maturation of motherliness.

ried mothers may have valid rationalizations, married women, without any external reason but on the basis of the same developmental conflicts, may just as often resent their pregnancies.

Although this statement implies that the wish for abortion is motivated by emotional pathology, one cannot maintain the opposite: that mothers who have many children necessarily represent examples of normal emotional maturity. Social workers well know the cases of married mothers who take good care of their children and are good mothers so long as the vital symbiosis continues, but after the period of lactation they are not able to provide their children with productive motherliness. In some instances the older children appear nonexistent to them when these women become pregnant again and go on producing children every year or two for the sake of their own vegetative gratification. The solicitude of the environment can hardly be responsible for that; most of these women experience little or no gratification of emotional needs from the outside, from object-relationships. Probably just this makes the biological gratification of pregnancy an irresistible temptation to these women. Needless to say, pregnancy might have the same effect on unmarried mothers who continue producing the illegitimate children for the sake of the gratification inherent in the reproductive function itself. In most instances these women, giving up the child in adoption or placing it in foster homes, develop little or no relationship with the infant; their personality does not develop through motherliness. It is not the problem of being married or unmarried (although being an unmarried mother necessarily brings with it serious disadvantages), but it is rather the structure of the total personality which determines the psychosexual developmental effects of motherhood.

The interruption of fetal symbiosis by parturition can be considered a trauma not only for the newborn but for the mother as well. The hormonal and metabolic changes which induce parturition, the labor pains and the excitement of delivery, even without the intensive use of narcotics, interrupt the emotional unity of the mother with her infant. Fortunate is the woman whose love for her first baby wells up in her as she first hears its cry. Primiparas often experience an "emotional lag." For the nine months of pregnancy, or for a part of this period, they were preparing to love the baby. After delivery they may be surprised by a lack of feeling for the child. The postpartum depression of many women begins with disappointment and self-accusation, since instead of love they feel emptiness. It may be that the postpartum metabolic processes are responsible for an initial depression which interferes with a feeling of love, or it may be that the immaturity of the psychic and somatic processes which result in normal

motherliness is responsible for the lack of loving feeling toward the infant. One may ask whether the unmarried mother, who for nine months has doubted her rights to her child, may be even more likely to have such an emotional lag; or that the unmarried mother may use the lack of an immediate love for the child "constructively"; that is, instead of becoming insecure and depressed, it might help her in making a decision about giving up her child. Here again the status of being married or unmarried does not account for the differences in the primary emotional response to motherhood. Careful case studies reveal that some unmarried mothers respond with immediate love toward the infant and that they use all their ego-strength to suppress the feeling in order to be able to separate themselves from the child. Other unmarried mothers feel just as guilty about the lack of feeling toward the infant as married mothers would, or even more so because there is more rational motivation for guilt. It seems that in many instances the hesitation of the unmarried mother about giving up her child comes from the "sense of being unnatural" if she does not feel love for her child or is unable to make herself feel it.

Establishing bodily contact with her baby, taking it in her arms, seeing and touching it, helps the mother to feel again a sense of unity with her infant. The need for the continuation of that unity exists in the mother, emotionally as well as physiologically, since her hormonal household is preparing for lactation. Lactation is a contented period in the woman's life if she has abundant milk secretion and a thriving baby. The hormonal function—regulated by prolactin production—suppresses the gonadal function while it stimulates milk secretion so that there is no cyclical evolution of hormonal production during lactation. The emotional attitude of the lactating mother is similar to that of the progesterone phase of the cycle but with this difference: what was then fantasy and preparation for motherhood is now physical and emotional reality. The dominant attitudes of motherliness are motivated by active and passive receptive tendencies. The enhanced metabolic needs of the mother who is "eating for two" accounts for the increase in her passive receptive needs; the pleasure in nursing, feeding, giving to her infant, are manifestations of the active direction of the same tendency. The active and passive receptive tendencies are the axis around which motherliness develops. Lactation more than any other form of nursing represents the continuation of the symbiosis between mother and child. While the infant incorporates the breast, the mother feels united with her baby. The pleasurable sensations permit the mother to "regress"; by identification with her child she may repeat the gratification of her own dependent wishes. The emotional experience of lactation thus affords,

through the processes of identification between mother and infant, a step-by-step integration of motherliness.

It is a biologically useful "*adaptive regression*" which characterizes the emotional state of each phase of the woman's procreative function. The progesterone phase of the cycle as well as pregnancy and lactation implies a stimulation for bodily growth and emotional development. Physical growth proceeds through enhanced metabolic processes. They produce the reservoir of energy and love out of which motherliness develops. The enhanced metabolic processes are satisfied normally through an intensification of the receptive needs which in turn may reinforce the passive dependent tendencies of the woman. In this way the biological processes bring about the vulnerability of the emotional processes of motherhood. They may activate the regressive tendencies to such a degree that the woman's desire to be dependent and like a child may outweigh her desire and capacity for mature motherly functioning. The analysis of the progesterone phase of the cycle gives indications of the conflicts which a girl may experience later in the area of her propagative functions. The emotions which accompany the progesterone phase of the cycle, especially in the adolescent girl, are characterized by an "oral regression." This may be expressed by infantile, dependent wishes or by the repetition of conflicts with her own mother; they may motivate psychosomatic symptoms such as overeating and anorexia. Both types of oral symptoms, as well as other manifestations of depression, which may be exacerbated during the progesterone phase, indicate the dangers which motherhood holds for some women.

It is a well-established concept of psychoanalysis that intensification of oral receptive tendencies represents the psychodynamic condition of depression. Thus the emotional state which makes possible the evolution of motherliness is the same which may bring about the depressive emotional reactions in the mother, and subsequently, through an unconscious communication, in the infant as well.

It is beyond the scope of this presentation to account for the various forms of emotional pathology of pregnancy and of the postpartum period. It should be pointed out that there are many subclinical manifestations of the *depressive emotional constellation* which seriously affect the mother-child relationship. The pathology in the regression to "vegetative motherliness" was indicated before. Less obvious are the anxious tensions and depressions of the women who want to be "perfect mothers"; who, wishing to bring up "perfect" or "perfectly happy" children, rigidly follow rules and consider any deviation in the child's behavior as the manifestation of their own

failure. While these women change the vital relationship of motherliness to an intellectual standard, they expect relief from their depressive moods either by avoiding another pregnancy or by hoping that with another child they will do better.

Pediatricians often comfort mothers by saying that it would be good if each first child could be the second, implying that mothers feel less anxious, more secure, with the second child. One usually assumes that "learning by experience" accounts for this difference in the mother's attitude. Yet when one listens to mothers describing their experience after the birth of the second child, the sense of immediate contact with the child, the flow of love,*the calm happiness, even before touching the child, then one feels justified in assuming that a more complete biological maturation of motherliness activates this flow of emotions. Its effects are lasting. In most instances such experience helps the mother to overcome her insecurities and to establish her motherliness with her first child as well. Needless to say, there are overconscientious mothers who from such happy experience may construe a reason for guilt and therefore develop conflict with the first child, and consequently with all their children. Thus the pathology of the interpersonal relationship between mother and child may bear its fruits in the pathological attitudes of the parents of the next generation.

The development of motherliness, however, is not a function of actual childbearing. It is an evolution of a basicanlage, which matures step by step during the development of the individual, through the identification of the girl with her mother, and through the repetitions of the emotional and physiological metabolism of the progesterone phases of the cycle. Through these repetitions the sublimated expressions of motherliness become an integrated part of the adult woman's personality. This integration of motherliness, and with it the total personality of the woman, is put to a test by the processes of childbearing. In spite of the fact—and even because of it—that there is a primary drive toward motherhood, the achievement of maturation through normal motherhood and motherliness is more difficult for the unmarried mother than for the married one.

Marriage represents a manifold protection. The conflicts which a married mother has with her motherliness, that is in regard to her child, do not need to be exposed. They have a better chance to be overcome in time and through the emotional help of the husband and the family. Not so with the conflicts of the mother who has not the protection of marriage. She is always scrutinized and she scrutinizes herself. If she is not able to bear the criticism of others or her own

sense of guilt and obligation, her ambivalence toward her child or her withdrawal into regressive behavior will be more obvious than in the case of the more fortunate married mother. Yet all these differences are motivated by external sociological factors. The term "unmarried mother" refers only to a social status, not to a psychiatric or medical diagnosis.

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